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Implementation of a method for measuring and controlling the Order Processing Service Level in E-commerce

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Master Thesis

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Para os meus pais e a minha irmã,
as minhas fontes incondicionais de força e inspiração.

Abstract

The primary objective of this project is the creation and implementation of a dashboard to support Farfetch's Operations Department, an e-commerce company of luxury goods. Due to the constant growth of the company, the need to monitor the level of service offered to customers has become vital.

In order to satisfy the need exposed, the first step taken was the study of the existing metrics in the company that monitored the order processing. These metrics were subsequently remodelled and new metrics have been developed to ensure an efficient monitoring.

Dashboards were developed in order to share the results in a useful and intuitive way to the whole team. Those dashboards are now implemented in 3 of the Farfetch's offices: Portugal, United Kingdom and United States.

In addition, daily proactive reports were created and automated, so as to prevent metrics failing the established targets. Since this implementation, the metrics of speed of sending orders were increased by 5.16% compared to the same period last year, despite an increase of 67% in orders volume.

Finally, an online form was developed to enable characterization of the Boutiques, Farfetch's Partners, allowing the centralization of information about them and thus allowing to measure each one's processing capacity for different metrics. In the future, Farfetch intends to build a decision support tool, capable of calculating autonomously the processing capacity, from data received via this form, allowing to simulate different scenarios and conclude about the impact of each one on the processing capacity of each boutique.

Resumo

O objetivo primário deste projeto passou pela criação e implementação de um dashboard para uso do Departamento de Operações da Farfetch, empresa de comércio de luxo online. Devido ao crescimento constante da empresa, a necessidade de monitorização do nível de serviço oferecido aos clientes tornou-se vital.

De modo a satisfazer a necessidade exposta, foi feito primeiramente um levantamento das métricas estabelecidas na empresa, relativas ao processamento de encomendas. Essas métricas foram posteriormente readaptadas, e novas métricas foram desenvolvidas de modo a tornar a monitorização mais completa e eficaz.

A fim de partilhar os resultados de uma forma eficiente a toda a equipa, foram desenvolvidos dashboards que se encontram neste momento implementados quer no escritório de Portugal, quer no Reino Unido e nos Estados Unidos.

Para além disto, foram criados e automatizados relatórios diários proativos, de modo a evitar que as métricas falhem os objetivos estabelecidos. Desde a implementação dos mesmos, as métricas de rapidez de envio das encomendas sofreram um aumento de 5,16% comparativamente ao mesmo período do ano passado, apesar da subida de 67% no volume de encomendas.

Finalmente, foi desenvolvido um formulário de preenchimento online para caraterização das Boutiques parceiras da Farfetch, de modo a centralizar a informação sobre as mesmas e poder assim medir a sua capacidade de processamento para diferentes métricas. Futuramente, pretende-se construir uma ferramenta de suporte à decisão capaz de calcular autonomamente, a partir dos dados recebidos do referido formulário, a capacidade de processamento permitindo simular diferentes cenários e concluindo qual o impacto de cada um na capacidade de cada Boutique.

Acknowledgments

Fartech was a big surprise in my life. I am able to go to work every day with a smile on my face, knowing that I love what I do and that my work is appreciated and recognized. I would like to express my sincere gratitude to my supervisor at Farfetch, Nuno Borges, who knows more than anyone else everything there is to know about the business, and that isn't afraid to share it. For that, for all the time, patience and for all the laughs, a big thank you. I thank also all my colleagues, especially those who helped me through this first months: Francisca Marinho, Joana Fernandes, Raul Abreu, Fábio Costa and Rui Afonseca, your patience is gold and I could never thank you enough.

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1 Introduction

The sale of luxury goods is becoming a more and more attractive business, especially when combined with the technology associated with online commerce. However, these two businesses do not complement each other naturally. Thus, it is necessary a thorough knowledge of the two sectors for a successful merger of both.

The present dissertation, developed at the Supply Operations Department of Farfetch, a luxury goods e-commerce company, has the main goal of implementing a method for measuring and controlling the order processing service level, to ensure the experience required by consumers of this segment.

1.1 Farfetch Portugal

Farfetch is an online marketplace for fashion boutiques, launched in 2008. Since then, it has grown continuously and sharply, seeing annual sales of $275 million and year-on-year growth of more than 100 percent.

This expanding network has currently more than 300 European and American boutiques, serving customers on every continent, offering a mix of products from over 1000 designers.

Farfetch's main diversification point is its business model – the contours in which the business was set distinguish by originality, vision and the unusual and open minded take in the fashion business. The service offered to the boutiques benefits from a commission based business model, online marketing, PR, Customer Service, web platform and its maintenance, payment handling, logistics, among others.

The end-user of the website benefits from the possibility of buying luxury fashion goods in a convenient and safe way, having access to a catalogue that gathers the products of renowned boutiques such as Biondini, Stefania Mode, L'Eclaireur, Feathers and American Rag. The customer can pay in several ways, using Credit Card from multiple providers, Paypal, BrasPag, and can also choose from multiple delivery methods.

With this offer, Farfetch aims to change the way the world shops for fashion, conquering a leading market position.

1.1.1 Farfetch Portugal Structure

Farfetch is currently divided in 5 offices: Portugal, United Kingdom, United States – Los Angeles, United States – New York and Brazil. In total, it employs more than 370 people, 170 of them in Portugal.

In Portugal, Farfetch is divided in eight departments: Operations, Account Management, Merchandising, Customer Service, Production, Technology, Human Resources and Finance (**Error! Not a valid bookmark self-reference.**).

The Operations Department is divided in four different teams: Supply Operations, Courier, Fraud and Payments. The main goal of the department is to ensure the key operations involved in the sales process, giving also support to the Account Management Department.

The Account Management Department is responsible for managing, optimizing and growing sales and operational performance of the European boutique partnerships across UK, France, Benelux, Spain, Italy, Eastern Europe and Scandinavia. In addition, it aims to work towards

creating a synergy between online and offline fashion retail, supporting and coaching partners on respective differences and needs, whether commercial, operational or customer service related.

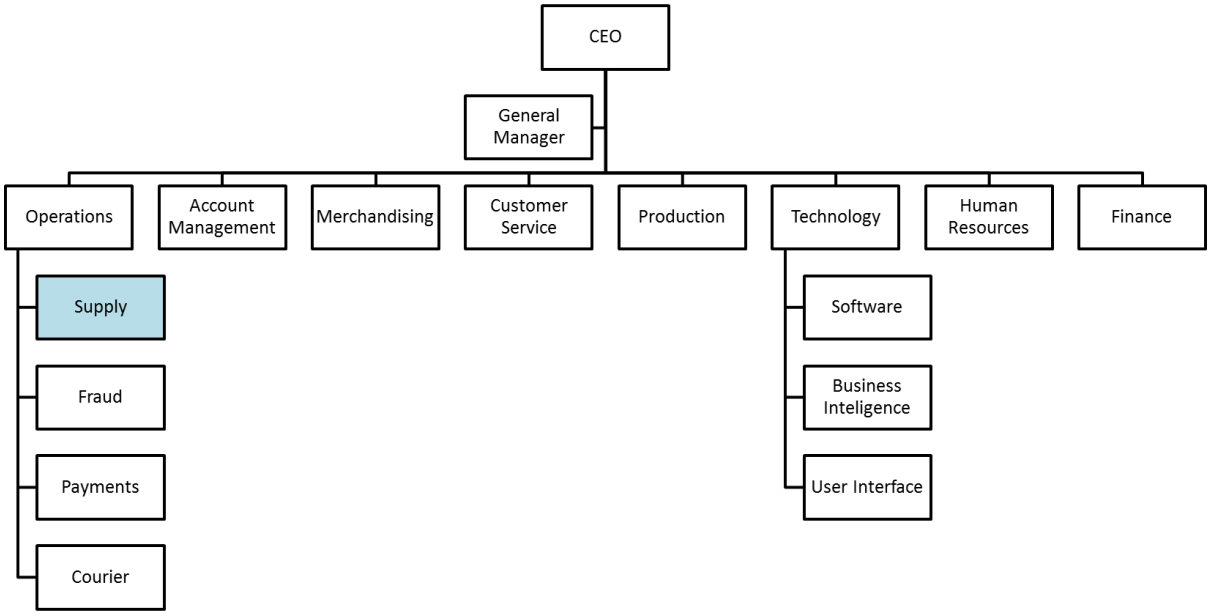


Figure 1 - Farfetch's Organizational Diagram

1.1.2 Supply Operations Team

The Supply Operations team works as a sub-department of the Operations Department. The main objective of the team is to define the processes of the supply chain and to control the service level, focusing on the ordering and the return processes.

It works closely with the Account Management department, providing analytics and contributing to the continuous improvement of partners' performance, guiding them with recommendation of the best practices and setups to implement in each boutique.

Besides this, the Supply Operations team works as a bridge between the Operations Department and the IT Department, being involved in all projects related to Process Improvement, and giving support in the requirements elicitation for the development of new tools needed internally, for the teams, or externally, for boutiques.

It is also responsible for providing training sessions for Account Managers, Boutiques, or other teams regarding the metrics used to evaluate the processes, new tools or any operation required.

1.2 Project Scope

With the continuous and fast paced growth of Farfetch, and the respective increase in orders, it became vital to guarantee full control of supply operations through the definition of Key Performance Indicators, able to monitor all players involved in the supply service. In order to better understand who those players are and the level of importance of each one, it is necessary to start by detailing the business and the flow between each business unit.

Farfetch defines itself as the hub of a fashion community, being simultaneously an e-commerce platform and a Multichannel Enabler for fashion boutiques around the world. The company is able to provide services to two very different segments: the B2B segment, the boutiques, to

which Farfetch provides an extra sales channel, and the B2C segment, the end customer, to which Farfetch provides a variety of fashion items via its e-commerce platform.

The complexity of the B2B service is correlated with the magnitude of the value proposition that Farfetch delivers. Farfetch works as a service provider for fashion boutiques, giving them the ability to sell their products worldwide through Farfetch's e-commerce platform, and integrating all the operations related to those sales.

Farfetch becomes accountable for managing and monitoring the entire sales process, from product presentation to the customer to post-sales support.

For the boutique, the process starts by sending to Farfetch one of each product that they want to sell on the website. From there, Farfetch begins its production process: the items are shot, singly and in live model, the pictures are edited and then, after quality approval, the item is returned to the boutique. The boutique needs to update the stock for each product and the item becomes live on the website. Thereafter, all the buying process, including the checkout, is provided by Farfetch. The boutique simply has to check when there is a new order for one of its products, validate the stock, print the paper work and pack it with the item, and then wait for the Courier to pick-up the order. The Courier service, the invoices and packaging are all part of the service provided by Farfetch, as well as the Fraud detection, Payment validation and collection, Customer support, online Marketing, among other features (Figure 2).

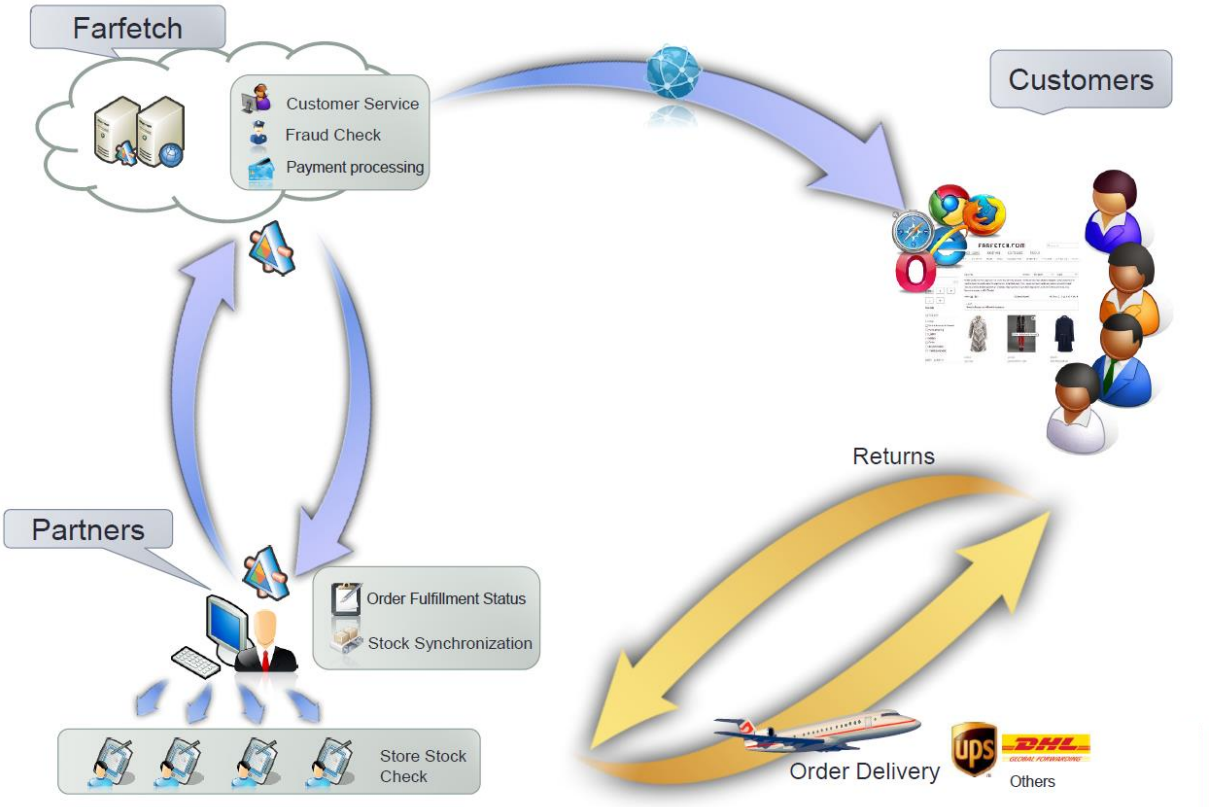


Figure 2 - Farfetch Business Representation (source: internal document, all rights reserved to Hélder Ferreira)

Due to the high number of boutiques involved, it is possible for Farfetch to achieve very competitive prices on all of these services, through economies of scale. If each individual

boutique had to bear such costs to obtain multichannel sales, it would be very unlikely for them to achieve a viable position.

A major advantage for Farfetch, in comparison to its direct competitors, is the number of items available on the website. Through this structure, Farfetch is able to stock more than 1000 labels and approximately 100000 items, which comparatively to a regular fashion e-commerce platform is a 5 times higher number. This allows for great diversity of products and consequently lower risk of failing the customer expectations. Instead of a single stock buyer, Farfetch relies on more than 300 buyers worldwide aware of trends and customer needs.

1.3 Problem Statement

Farfetch needs to face the challenge of delivering an even and luxury service for all its B2C segment, relying not only on its performance but also on the boutiques performance. The downside of the structure previously presented is that Farfetch needs to be able to measure and control not a single supply chain, but the combination of more than 300 supply chains.

This fact creates some requirements related to the definition of Key Performance Indicators that ought to be efficient enough to monitor and control all this complexity, allowing Farfetch managers to work towards the most homogeneous service level possible. Effective communication between Farfetch and boutiques is essential to enable instant decisions and diminish lead times for the customer. Farfetch needs to not only monitor all boutiques performance levels, but also to provide boutiques the tools and the feedback to increase that performance.

This feedback is currently provided to the boutiques through monthly reporting, regarding targets, sales and merchandising data, among others. However, since the feedback is only provided in a monthly basis, there is not enough time to unroll an action plan that would allow for service recovery. The latency period between providing an unsatisfying service and measuring it is very high.

The goal of this project is to create a more efficient way of reporting, internal and externally, that will allow all process interveners to know immediately their performance, and that will generate proactive alerts when KPIS are at risk of not being achieved.

1.4 Research Questions

The goal of this dissertation is to answer the following research questions:

- *What metrics are important to measure service level in this business model?*

  One of the primary goals of the dissertation is to identify the most appropriate and efficient metrics to measure the service level on this type of business model. Thus, it is vital to create new metrics and apply them to the business, in order to access their suitableness and relevance. Additionally, it is necessary to provide feedback to all company members that will be using the metrics, in order to maximize the quality of the information and to take advantage of the available data.

- *What parameters have direct impact on customer satisfaction?*

  Instead of focusing only on internal performance metrics, it is important to correlate them with the customer satisfaction metrics, in order to assess the ones with higher

impact on the customer experience. Those should be the ones prioritized and highlighted when reporting the company performance. The customer satisfaction is the ultimate goal when delivering a service, so if the internal performance metrics reveal high results but the customer satisfaction ratings show otherwise, this should be taken as an indicator to remodel the internal metrics in order to make them more customer focused.

- *What is the best presentation method for each KPI?*

  In order to take the greatest possible advantage from the KPIs implemented it is necessary to display them to the teams involved in an intuitive and effortless way. The presentation method should guarantee that the KPI results are explicit and effectively communicated to all stakeholders involved.

1.5 Methodology

In order to answer the previously stated research questions, and therefore to meet the goals of this dissertation, it is necessary to follow a stable methodology. According to the requirements of the business model and the supply chain complexity, it was defined the following method to incrementally solve identified issues:

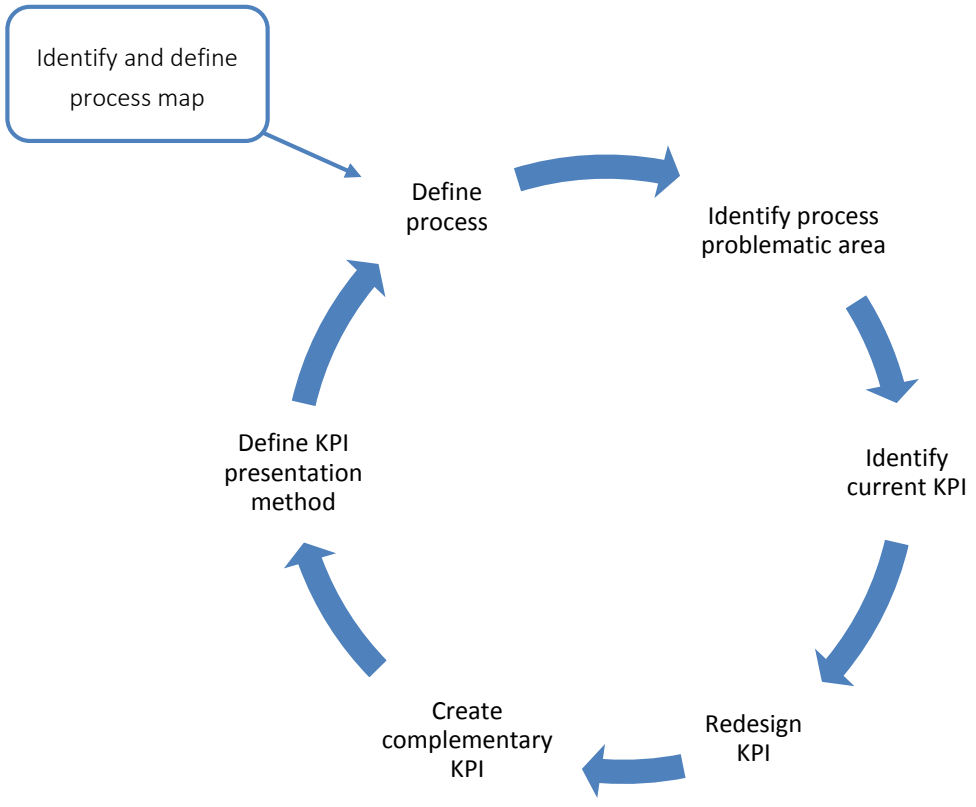


Figure 3 - Methodology

By following this model, there's a continuous opportunity to identify problems and process nodes that are not being correctly evaluated, or that are not being evaluated at all. Even though there is a major importance to the success of the method, related with the continuous cycle, it is vital to start by defining the process map, in order to get an overview of the processes that are part of the Supply Operations and to create a base for the workflow.

After the definition of the process map, each process will be studied one by one, and for each of the processes problematic areas will be identified. Subsequently, it is necessary to identify the KPI that is currently evaluating that area, and to redesign it according to the new goals of the supply chain. It may also be necessary to create new KPIS that complement the existing ones.

The final step has to do with the choice of presentation method that best fit the new KPIs established for that area.

1.6 Report Structure

The report is structured as follows: Chapter 2 addresses the state of the art of the main themes of this dissertation: e-commerce, luxury goods, customer perception in e-commerce, supply chain performance management and recommended reporting methods for Key Performance Indicators.

Chapter 3 describes the Supply Operations Process Map, in order to give an overview of the Supply Operations Department complexity, and specifies the Ordering Process and the Former Key Performance Indicators used by the company, presenting some 2013 results.

Chapter 4 is divided in four sections that together form the Solution Proposed for the problem exposed on the Project Scope. The first sections describes the design phase, explain the elicitation of requirements and needs identification. The second section describes all the new Key Performance Indicators introduced to the company, their targets and exception points. The third section describes the proactive reporting and the implementation of the Operation Dashboard, the methodology used and the main characteristics and functionalities. The fourth and final section describes the proposal of a support decision tool to improve overall performance.

The final chapter, Chapter 5, concludes the thesis and describes the main ideas proposed for future work.

2 Literature Review

The literature review will have its focus on the concepts behind e-commerce, luxury goods, customer perception in e-commerce and supply chain performance management, in order to better understand their relationships. It will also explore the recommended reporting methods for Key Performance Indicators.

2.1 Luxury goods and e-commerce

Luxury is not a product, but an identity, a philosophy, and a culture (Okonkwo 2009). Combining luxury and e-commerce is a challenge, debated by many through the more recent years. Even though both industries are known for innovation, avant-gardism and creativity, until recently the literature indicated an incompatibility between the two (Okonkwo 2009).

Some of the main characteristics of e-commerce and the Internet in general is its global reach, lack of physical contact with the goods, and lack of human contact with the sellers (Dennies, Fenech and Merrilees 2004), which collides with luxury attributes, such as exclusivity and limited access for a specific clientele (Okonkwo 2009). Customers of this segment expect a certain experience when purchasing, which will make them feel admired, recognized, appreciated and respected (Okonkwo 2009).

Luxury brands are regarded as images in the minds of consumers that comprise associations about a high level of price, quality, aesthetics, rarity and extraordinariness (Heine 2012). An e-commerce company who then aims to sell luxury brands successfully, needs to distinguish itself and set a differentiation tone to the customer perception regarding online stores.

Another important aspect is the Web 2.0 space, describing the Internet as a platform, comprising web services, social media, and allowing users to interact and collaborate with each other, creating the sense of community (O'Reilly 2005). This phenomenon, even though is not recent, is growing, and becoming increasingly powerful. The large number of blogs and social networking subscribers make the e-commerce websites visible, but also exposed to customers opinions, which can be a positive or a negative fact.

In addition, the Internet faces a struggle to gain customer trust. Luxury goods are expensive, as they play to consumers' aspirations (Yeoman and McMahon-Beattie 2006), and therefore selling luxury products represent an exchange of high monetary value. Consumer trust in an Internet vendor is an issue commanding ever more attention: since the transactions in e-commerce take place without personal contact, customers can be concerned with the integrity and legitimacy of the vendor (Chen and Dhillon 2003). However, trust can be built if a relationship with the vendor and the related transactions occur with competence, integrity and benevolence (Chen and Dhillon 2003). Therefore, some attributes related to an online sale can be perfected to the point where the customer feels as safe and as pampered as if buying in person, such as response time, delivery time, transparency, feedback, and overall quality of customer service. "*Service quality, customer satisfaction, length of relationship and courtship significantly influence perception of competence, integrity and benevolence*" (Chen and Dhillon 2003).

2.2 Supply chain performance measurement metrics - KPIs

In order to guarantee that the attributes referred above are delivered to the customer effectively and constantly, an e-commerce company of luxury goods needs to monitor and improve the

performance of it supply chain steadily, which has become a far more complex task over the years (Cai, et al. 2009). Supply chain is an integrated network of organizations involved in the physical flow of products from suppliers to customers (Fahimnia, Farahani and Sarkis 2013). A performance management system includes many processes, such as measure identification, target definition, planning, communication, monitoring, reporting and feedback (Cai, et al. 2009). Performance measurement is vital in strategy formulation and communication and in forming diagnostic control mechanisms by measuring actual results (Wouters 2009).

Coordination of the supply chain has become strategically important for the new forms of organizations: businesses are evolving and becoming boundless, due to globalization, outsourcing, and increased demands of integration, which led to a broadened supply chain definition. (Akyuz and Erkan 2010). Integration, collaboration and the use of IT are increasingly important to support supply chain management for the new organization (Pant, Sethi and Bhandari 2003). Some of the purposes of a performance measurement system are the following: identifying success, identifying if customers' needs are met, better understanding of processes, enabling and tracking progress, providing factual decisions and identifying problems and improvement opportunities (Gunasekaran and Kobu 2007).

In a modern and forward thinking business, such as an e-commerce company, it is important to depart from traditional measures, since these do not focus on key chain-spanning activities, do not always optimize supply chain performance and do not motivate employees to work with a supply chain orientation (Theeranuphattana, Tang and Khang 2012). A supply chain performance measurement system cannot ignore the interactions among important supply chain characteristics, nor ignore critical aspects of organizational strategic goals (Beamon 1999). Many companies fail in maximizing their supply's chain potential because they fail to develop the performance measures and metrics needed to maximize effectiveness and efficiency (Gunasekaran, Patelb and McGaughey 2004).The main problems in traditional performance measurement are the incompleteness and inconsistencies in performance measurement and metrics, the large number of metrics, and the failure in connecting the strategy and the measurement (Akyuz and Erkan 2010). Another issue with these systems is that they do not provide a clear cause-effect relationship between the key performance indicators (KPIs). It is indeed difficult to correlate the different KPIs and the order of priorities for accomplishment of individual KPIS (Cai, et al. 2009).

The use of resources measures, output measures and flexibility measures have been identified as vital components to supply chain success. The resources measures reflect the level of efficiency, critical to profitability; the output measures reflect the level of customer service (customer responsiveness, quality and quantity of final product produced), and the flexibility measures reflect the ability to respond to a changing environment (Beamon 1999). In a global company, such as an e-commerce one, the increase in risk and uncertainty associated with that globalization adds another level of complexity to the already challenging management of the supply chain (Blome and Schoenherr 2014).

In terms of output measures, the easiest to define are the quantitative ones that can be represented numerically, such as number of items produced, time required to produce an item, or number of on-time deliveries. However, other qualitative measures need to be considered, such as customer satisfaction and product quality (Beamon 1999).

A flexible supply chain is able to respond more promptly to various fluctuations in supply and demand, as well as changes in other environmental parameters, such as lead time and capacity limits (Esmaeilikia, Fahimnia and Sarkis 2014). Flexibility measures potential behavior, and

not performance, which indicates that flexibility does not have to be demonstrated by the system in order to exist. (Beamon 1999). This illustrates the great complexity inherent to key performance indicators selection and definition.

Regardless of the type of measure, it is possible to assess the basic characteristics and requirements that the new era performance measurement metrics should comprise. They should capture the essence of the organizational culture, being based on the company strategy and goals, and relate to strategic, tactical and operations level of decision making (Gunasekaran, Patelb and McGaughey 2004). They should also vary between organizational locations, be simple, easy to use, and actionable, adopting a proactive approach enabling fast feedback and continuous improvement (Gunasekaran and Kobu 2007). In addition, they should allow for reviewing, revising and refining, contributing for organizational learning (Wouters 2009).

The building of the most appropriate set of KPIs should focus on the end result, having in mind what the company wants as an outcome from the work processes. It should be done in stages, assessing first the already defined measures, their adequacy, level of interest, effectiveness and alignment with business goals. Well-organized metrics provide operational measures which are able to reveal cause-effect relationships with the desired outcomes, being ideally the catalysts for change and continuous improvement, and simultaneously an alert system that indicates inefficiency and possible failure (McNeeney 2005).

One way to ensure that KPIs represent a true portrayal of the supply chain performance is by first exploring operational inefficiencies and improvement opportunities (Ying, Lijun and Wei 2009). It is also critical to ensure that these metrics are evaluated and updated constantly, in order to guarantee that organizations are ready to respond faster to new opportunities or threats of the market (Cai, et al. 2009). It is a challenge to understand how to collect the data needed for the KPIs in a systematic and routine based manner. Automation of KPIs provides reliability, and diminishes the time elapsed collecting the data, offering more time for applying the metrics and therefore achieving the benefits from them. *"Without a central location to collect, store, and report KPI data, it can be extremely difficult to manage metrics unified around a strategy map."* (McNeeney 2005).

2.3 Reporting Methods

Communicating across every company is imperative. Any performance-driven organization, but particularly those involving people and high technology processes or equipment, must focus on educating its workforce. KPIs provide a means of aligning the entire organization with the company's key strategies, but they also require careful communication and education (OSIsoft, Inc. 2009).

The effectiveness of the KPIs is not only represented by the way they are defined, but also by the way they are presented to the teams and all stakeholders involved. The reporting method used to display those KPIs is critical since it influences the ease of interpretation of the data and the speed of action of those involved in the processes. Real-time data allows for real-time action plans, which is a very relevant success factor for supply chain management (Ying, Lijun and Wei 2009). The reporting framework must accommodate the requirements of different levels in the organization and the reporting frequency that supports timely decision making (Parmenter 2010).

Depending on the audience and on the regularity of information needed by that audience, several methods for reporting can be adopted.

Tables and Charts

The main KPIs are reported 24/7, daily or weekly. The most appropriate way to report these metrics to managers is by using some form of table giving the contact details, the problem, and some history, so a call can be made and the manager cannot hide poor performance (Parmenter 2010).

However, table reports, when used for individual measures, may sometimes fail to identify trends, detect unusual events or provide a prediction statement. This form of isolated reporting provides short value when it comes to make business decisions.

An alternative to table presentations is chart presentations. Similar to summarizing data through a table, the chart reports typically lead to theories about the past (for example, comparisons on month-on-month performance, or year-on-year performance). This type of chart is not intuitive, being difficult to read and becoming propitious to wrong interpretations and inconsistent conclusions.

"Report charts need to lead to activities that are beneficial to the organization. Traditional tabular and chart reporting leads to stories about the past without any formal system that describes what might be expected in the future." (Breyfogle 2008).

Balanced Scorecard

The balanced scorecard is a framework that companies can use to assess how the strategies and financial controls defined influenced their performance. Strategic leaders are the ones responsible for establishing the balance between strategic and financial controls and to assure that those controls support effectively the company's corporate-level strategy (Hitt, Ireland and Hoskisson 2003).

The balanced scorecard links performance measures across four perspectives: financial, customer, internal business processes and innovation and learning, answering, respectively, to the following questions: How do we look to shareholders? How do customers see us? What must we excel at? Can we continue to improve and create value?

The methodology to build a balanced scorecard begins by evaluating the performance through those four perspectives, defining cause - effect relationships. For each perspective, define 3 or 4 strategic goals, and for each goal define the action plan to achieve it (Kaplan and Norton 1992). With the perspectives aligned to corporate goals, KPIs can be organized into scorecards, directly achieving individual goals or fulfilling shared objectives (McNeeney 2005).

Metrics that build upon individual perspective goals need to be mapped from the lower-level operational measure to higher-level strategic measures (McNeeney 2005). The Balanced Scorecard should be implemented in a top-down approach, from functional area to each person, communicating and integrating the strategy across the company. It is essential do measure and analyse the performance of the strategic map regularly and correct actions when needed. (Kaplan and Norton 1992).

In terms of reporting, the major factors needed in a balanced scorecard solution are: drill-down capabilities, statistical analysis (slicing and dicing data), alerts, automatic consolidation, flag missing data and forecasting (Niven 2002).

Dashboards

Nowadays, information technology makes it possible to consolidate all data collected from customer actions. However, the challenge is to achieve great data organization in order to achieve an information-based strategy (Pauwels, et al. 2009).

Dashboards are another reporting method increasingly used by companies to communicate and visualize KPIs. They can be defined as *"a visual and interactive performance management tool that displays on a single screen the most important information needed to achieve one or several individual or organizational goals, allowing user to identify, explore, and communicate problem areas that need corrective action"* (Yigitbasioglu and Velcu 2012).

Dashboards are a tool able to respond to senior management needs, due to the growing complexity and amount of market data. According to (LaPointe 2005), managers point out four main factors driving the need for dashboards:

1. Poor organization of the decision-relevant data;
2. Managerial biases in information processing and decision making;
3. Increasing demands for accountability;
4. Need for cross-departmental integration in performance reporting practises.

Performance dashboards might offer a solution for the information overload caused by the overwhelming reports created by the companies multiple systems: Enterprise Resource Planning (ERP), performance scorecards and Business Intelligence (BI) software. That solution comes for providing an integrated tool that incorporates various concepts and applications. A dashboard is expected to collect, summarize and present information from multiple sources so that the user can see at once how various KPIs are performing (Yigitbasioglu and Velcu 2012).

The referred integration is an important characteristic of dashboards in three ways (Pauwels, et al. 2009):

1. Data: The dashboard provides a common organization framework which integrates diverse sources of data at different levels of aggregation, covering different time periods;
2. Processes: The dashboard helps management relate inputs to management performance indicators and even to financial controls, building a bridge between the concepts;
3. Viewpoints: The dashboard allows different executives, from different locations or departments, to share the same equally measured input, so that the entire company see its market situation according to the same principles.

When integrated with the companies system, dashboards enable different stakeholders to visualize the same information, creating different opportunities for each one of them: users may see this as a way of self-monitoring their performance in real-time, and to coordinate their actions with other managers towards a common goal, while subordinates may see this as an opportunity to communicate vertically their performance levels (Velcu-Laitinen e Yigitbasioglu 2012).

Communication is one of the main purposes of using dashboards presented by Pauwels et al. (2009). In addition, monitoring, consistency and planning are also considered. Monitoring refers to day to day evaluation of metrics, and is considered the most fundamental function of a dashboard. Consistency relates to the alignment of KPIs across departments, fulfilling the need presented above.

Planning have transformed dashboards in a type of Decision Support System. In order to achieve its full potential, some guidelines should be considered by designers when building the dashboard, in terms of content, features, and visualization.

Dashboards have evolved from the previous purpose of monitoring performance to more advanced analytical purposes, incorporating new desired features such as real time notifications and alerts, scenario analysis, drill down capabilities and presentation flexibility (Pauwels, et al. 2009, Ying, Lijun and Wei 2009, Yigitbasioglu and Velcu 2012).

Real-time notifications and alerts are necessary so that corrective or proactive actions can be triggered as soon as the measures deviate from predefined targets. Scenario analysis is a key feature when the purpose of the dashboard is to serve as a planning tool. The drill down feature allow users to slice and dice data for more detailed analysis without switching to a different reporting tool. Presentation flexibility, which is the ability to view data in different ways, is valuable due to the differences among user cognitive characteristics. *"The cognitive fit theory focuses on the fit between the individuals' decision-making skills, the information presentation format and the task at hand, providing useful guidelines with regard to the choice of presentation format applied"* (Velcu-Laitinen e Yigitbasioglu 2012). On one hand, unnecessary features and complexity may impair cognition, but on the other hand too few features will compromise the dashboards' goals. Therefore, flexibility becomes the solution for adapting the amount of information best suited for each user.

Regarding content, dashboards should only report few critical metrics. The selection and prioritization of the KPIs should be based on the relevant cause-effect relationships between supply chain execution and targeted business results. By reducing dashboard complexity, decisions can be made quickly. Effective dashboards assist users by providing a snapshot of present conditions, producing forecast against pre-set plans and ensuring early warning for potential issues (Ying, Lijun and Wei 2009). Excessive information can lead to decision inaccuracy and even disregard of information. There is an inverted-U relationship between the accuracy of decision making and the quantity of information supplied, indicating that only at an optimal point the information supplied translates into accurate decisions. More or less information decreases the decision accuracy (Velcu-Laitinen e Yigitbasioglu 2012).

Finally, visualization aspects are key when building a dashboard. Several issues need to be taken into consideration, such as how efficiently and effectively is the information presented to the user (Yigitbasioglu and Velcu 2012). Dashboards help managers to visually identify trends, patterns and anomalies, which makes the issue of visual information very important.

As other visualization tools, dashboards draw on the principles of visual perception. Visual perception can be explained by applying the Gestalt psychology to visualization (Yigitbasioglu and Velcu 2012). Gestalt psychology supports that the view of things is more than the sum of their parts, concluding that our minds perceive wholes out of incomplete elements. Among the Gestalt principles that dashboards should use are proximity, similarity, continuity, figure-ground, symmetry, and the closure of objects.

The process of visualization is divided in two phases: encoding and decoding. A dashboard might be evaluated according to how easy it is for the user to encode and decode the information. This processes are facilitated by the use of colour, position, shape, text and symbols. A good balance between visual complexity and information utility is required.

Visual features can work as a complement for functional features. For instance, one of the functional features referred above, the "real time notifications and alerts", can be achieved by

a visual feature. The alert can be generated by a change in the colour of the KPI, capturing special attention to it (Yigitbasioglu and Velcu 2012).

Another aspects to consider when designing a dashboard are related to its size. Even though the drill down feature is mandatory to a successful dashboard, the dashboard itself should fit on a single computer screen (Few 2006). In order to achieve the drill down capability, dashboards should allow a point and click interactivity that allow users to consult more information (Velcu-Laitinen e Yigitbasioglu 2012). Alongside, it should also be possible to "zoom out" from individual department dashboards and get a complete view on the corporate dashboard.

In conclusion, dashboards should be clean, simple, concise and intuitive to use. This characteristics will allow for better decisions, focused on the most relevant and urgent data, turning dashboards into a fitted solution to enhance decision making and ultimately company performance.

3 Supply Operations Overview

3.1 Process Map

As referred on 1.6 - Methodology, the first step to reach the answers to the research questions is the identification of the core processes that are part of the Supply Operations (Figure 4).

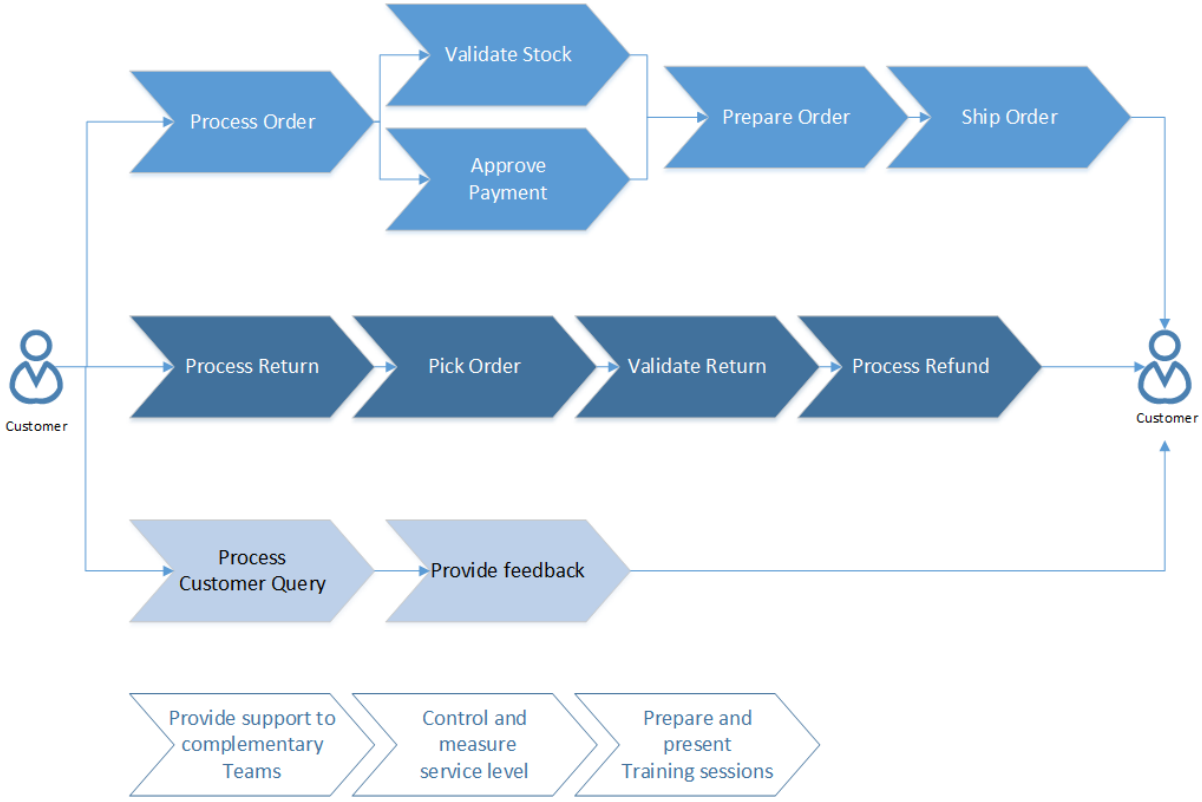


Figure 4 - Supply Operations Process Map

The customer can perform three different actions that trigger a process for Supply Operations: place an order, request a return or raise a query for Customer Service. Even though the Customer Service is not provided by the Supply Operations team, the queries are solved in collaboration between both teams. Many queries are related with Order tracking or payment approval, and therefore the resolution of the query depends on the Courier and Fraud teams, both integrated in the Supply Operations.

Additionally, Supply Operations have three support processes that are not triggered by customer actions: Provide support to complementary teams, control and measure service level, and prepare and present training sessions.

Due to the high number of processes that are responsibility of the Supply Operations department, it is vital to create efficient methods for measuring and controlling the service level of all processes.

3.2 Ordering Process

The second phase of the project starts with the in depth analysis of the processes followed by Farfetch, namely the ones related with the Ordering Process.

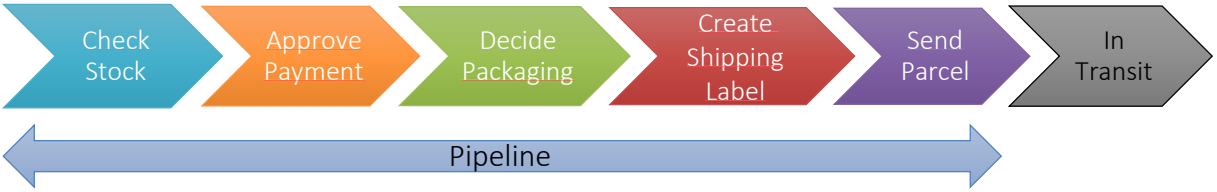


Figure 5 - Order Processing Flow

The Ordering Process is currently divided in six steps: Check Stock, Approve Payment, Decide Packaging, Create Shipping Label, Send Parcel and Parcel in Transit (Figure 5).

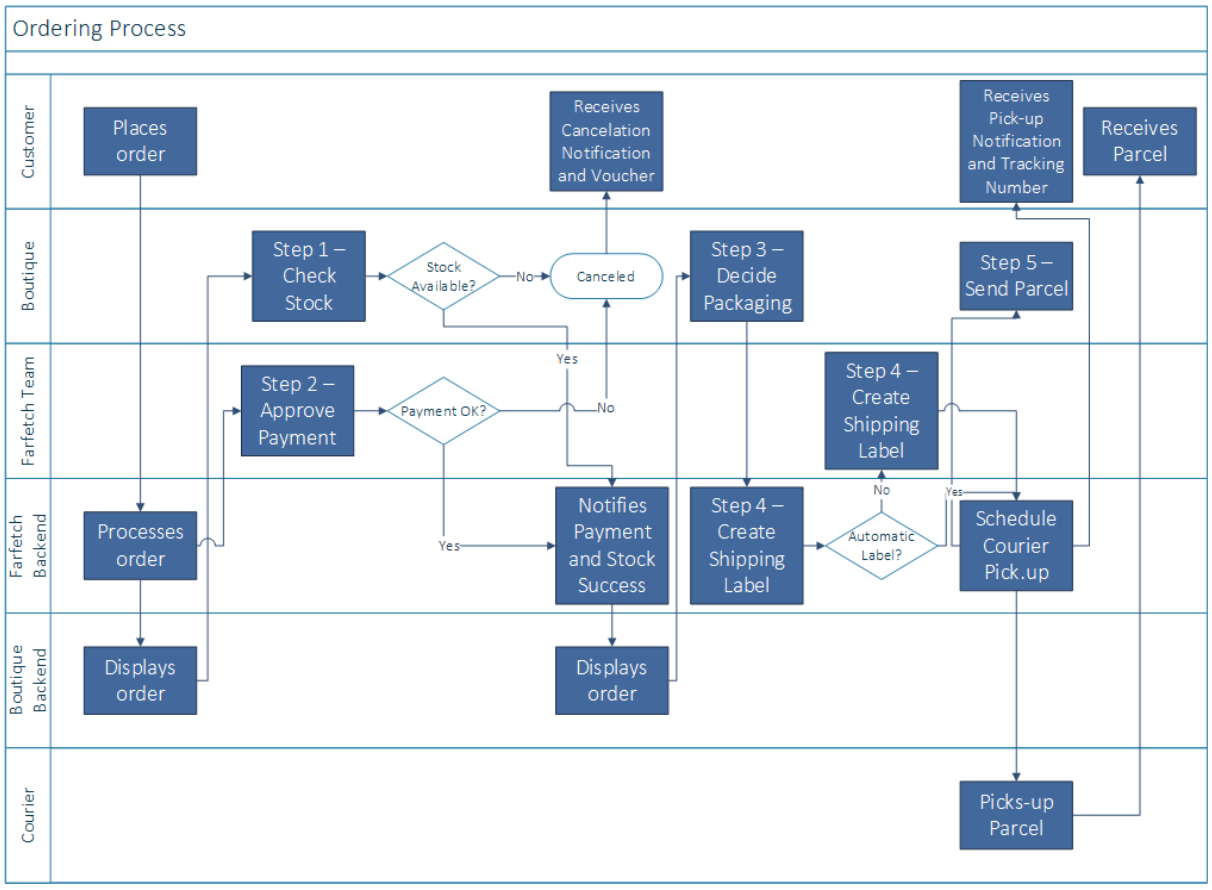


Figure 6 - Ordering Process Swimlane

The first five steps are explained in detail:

Step 1 – Check Stock

The first step comprises the process from the moment the order is placed by the customer, until the boutique confirms the stock existence. When the customer places an order on Farfetch website, the boutique or boutiques involved on satisfying that order are notified, and it is their responsibility to confirm whether the items are or not available.

Step 2 – Approve Payment

The second step of the process occurs in parallelism with the first step. When the order is created, the Fraud Department can start analysing the order details to approve or reject the payment made by the customer. The payment is only approved when the Fraud Department is certain that the payment is not fraudulent. When the analysts suspect that the order is not trustworthy, they cancel it and report back to the system the cancellation motive. In order to verify the level of trust of the order it can be necessary to request a Proof of Billing.

Step 3 – Decide Packaging

After the payment approval, the boutique starts working on packing the items to send to the customer. It has the responsibility to decide the best packaging according to the items selected, and to print all the information that needs to accompany the parcel. Additional details, such as an handwritten note, can be added to the order during this step, in order to improve the overall customer experience.

Step 4 – Create Shipping Label

The forth step is usually done automatically and involves the creation of the Air Way Bills (AWB). In some cases, human intervention is required, when orders fail to go through this step, mainly due to errors related to misspelling of the country or wrong zip codes.

This step can be hold due to legislation restrictions or by customer request.

Step 5 – Send Parcel

Once the AWB is correctly created, the order is moved to the fifth step, and it is ready to be picked up by the courier. Some boutiques have daily pick-ups, others need to book the pick-up in advance, depending on the average number of orders. Once the courier scans the package, the order moves automatically to the next step.

3.3 Former Key Performance Indicators (KPIS)

3.3.1 Speed of Sending (SOS)

The Speed of Sending is a KPI calculated based on two dates: Order Creation date, and Send Parcel (Step 5) date (Figure 7).

$$Speed\ of\ Sending = SendParcelDate - OrderCreationDate$$

The goal is that the average of orders have a Speed of Sending of 1.6 days. This KPI is used in order to evaluate the first five steps described above. It is also decomposed in the time of each step. In example,

$$timespentStep1 = StockOkDate - OrderCreationDate$$

The measurement of each step is essential in order to make the responsible for that step accountable for the time spent on it. That way, it is possible to evaluate not only the Boutique's performance on steps 1, 3 and 5, but also the Fraud Department, responsible for step 2, and Farfetch's System, responsible for step 4.

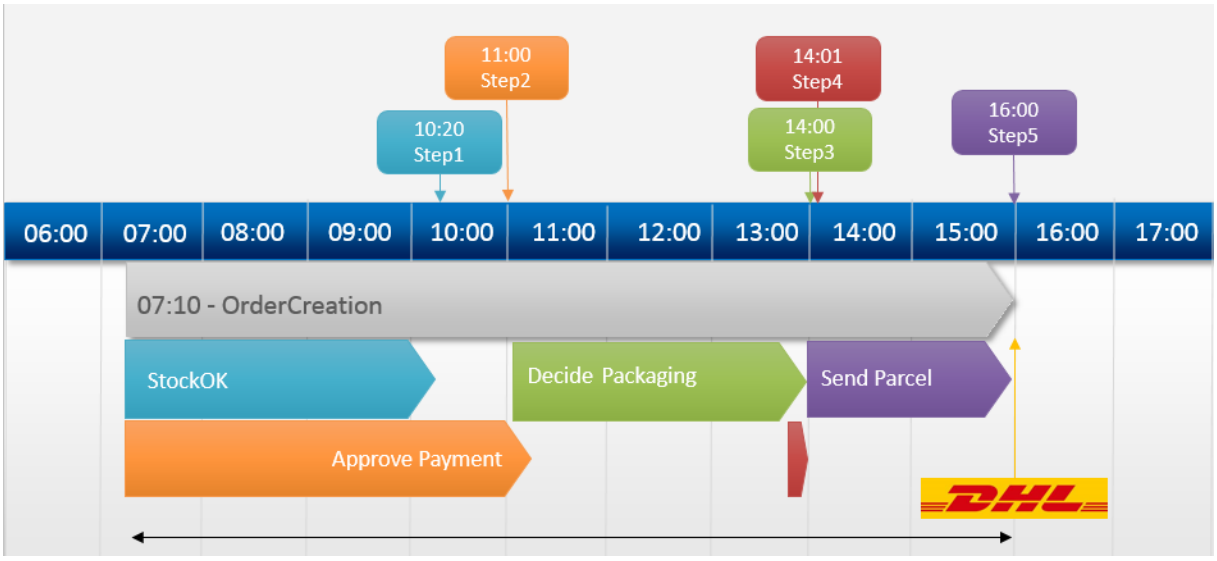


Figure 7 - Order timeline (Gross)

3.3.2 Service Level Agreement for Speed of Sending (SLA SOS)

One of the most relevant key performance indicator evaluated by Farfetch's Supply Operations Department is the Service Level Agreement. This KPI represents the percentage of orders that were sent in less than 2 days. This measure represents the target that all boutiques need to aim for when fulfilling customer requests.

$$\%\, SLA = \frac{\sum_{i=0}^{n}(Speed of Sending(n) < 2)}{\sum_{i=0}^{n} i}, n = Total of Orders$$

The target for this metric is 75%, which means that at least 75% of the total of orders need to be shipped in less than 2 days.

3.3.3 No Stock

Another metric very significant to the overall customer experience is the No Stock. Since Farfetch does not have a unified, completely synchronized stock, but it has rather a reunion of stocks of every boutique, sometimes it is possible that an order cannot be fulfilled due to a false stock. For instance, if an order is placed for an item at the same time as a physical sale happens for that item, the online order no longer has stock available. However, it can also happen due to carelessness of the boutique staff, who forgets to scan out an item sold physically in the online stock.

When the boutique does not have stock available to fulfil the order, it has the option to suggest an Alternative item to the customer. If the item is rejected by the customer, the item is considered as cancelled and contributes to the metric; if the item is accepted, it does not count as a cancelled item and therefore has no impact on the metric.

The No Stock metric is calculated as follows:

$$No\ Stock = \frac{number\ of\ canceled\ items}{number\ of\ sold\ items} \times 100\%$$

3.3.4 Net Promoter Score (NPS)

The Net Promoter Score is a loyalty metric used by Farfetch in order to determine the level of satisfaction achieved by the customer after a purchase. The NPS is calculated after the customer replies to a form, sent by an automatic e-mail, with the following content (Figure 8):

Figure 8 - Net Promoter Score Form

The first three questions are used to calculate the ratings: Boutique Rating, Packaging Rating and Delivery Rating. All of these metrics are represented by a number between 1 and 5, accordingly to the number of stars selected by the customer.

The following questions are the ones used to calculate the Net Promoter Score – one for the Boutique, and the other one for Farfetch.

The method for calculating the metric is the same for both: an answer between 0 and 6 represents a "Detractor"; an answer between 7 and 8 represents a "Passive"; and finally an answer between 9 and 10 represents a "Promoter".

The NPS is calculated as follows:

$$NPS = \%\ of\ Promoters - \%\ of\ Detractors$$

The ultimate goal is to convert all Detractors into Promoters.

3.4 Conclusion

The main conclusion that can be withdrawn after the analysis of the KPIs established in the company is that they have little or none focus on the customer – the Speed of Sending of the orders is only considered and calculated until the order leaves the boutique. After that, the time elapsed between the order pick-up and the delivery to the customer is not monitored. This time can have a great impact to the lead time, and consequently to the customer satisfaction level, as sustained by the following data:

Table 1 - 2013 Speed of Sending and Rating Delivery Results

Year	Month	% Boutique Orders with Speed of Sending < 2 days - Gross			Rating Delivery		
2013	January			46,09%			4,59
	February		13%	59,28%		1,67%	4,67
	March		6%	65,17%		0,71%	4,70
	April		-3%	62,23%		-1,40%	4,64
	May		6%	68,17%		0,59%	4,66
	June		0%	68,36%		-0,27%	4,65
	July		-7%	61,17%		-0,94%	4,61
	August		7%	67,87%		-0,77%	4,57
	September		1%	68,58%		2,82%	4,70
	October		2%	70,90%		0,86%	4,74
	November		-2%	68,50%		-0,92%	4,70
	December		-6%	62,74%		-1,51%	4,63
2013 Total				**64,39%**			**4,64**
Grand Total				64,39%			4,64

Another relevant point is that none of the above KPIs are proactive metrics – they are only reactive ones. As pointed out before, this business structure and overall characteristics require a proactive approach in order to guarantee the level of service required to a luxury industry.

4 Implemented Solution

4.1 Requirements Elicitation and Design phase

The design phase starts with the elicitation of requirements, either from stakeholders or by needs identified when analysing the processes.

As described on the previous chapter, Farfetch was only measuring the performance of the first five steps of the Ordering Process. With the development of this thesis, data from the remaining step was collected:

Step 6 – Parcel in Transit

After collecting the order from the Boutique, the Courier performs a scan which leads the order into the sixth step. From this moment, it is possible to track the parcel using the Courier tracking information. This step ends when the customer receives the package at the shipping address indicated. The Courier scans the parcel again at this step, and the data is registered into Farfetch's database.

With the constant increase in number of orders, it became crucial to measure not only the performance of the Boutiques but also the performance of the Couriers. Even if the Boutique is able to perform according to Farfetch demands, if the Courier does not respect the timetables accorded, the customer experience suffers and Farfetch is seen as accountable for that. Therefore, Farfetch needs to keep a strict control on the Courier lead times, in order to guarantee a competitive position and to become able to regain bargaining power towards the Couriers.

Return Process

Another key process for Farfetch's Operations is the return process, identified by all stakeholders involved. The return process was not being controlled in any way. In order to understand the need to measure and control it, the process is described below.

The customer has the ability to return an item if he wants to, within the timeframe of 14 days after receiving it.

Once a return is naturally a result of a less positive experience for the customer, it is necessary to ensure that the return follows a simple, transparent and quick process to guarantee that the client's perception about the level of service provided by Farfetch remains high. In order to make the process as convenient as possible for the customer, Farfetch provides all the service, starting with the request of the return that can be done directly on the website, through the customer's account. When selecting the option to return an item, an Air Way Bill is automatically created, and the customer can then select the day in which he wants the Courier to collect the item. After the pick-up, the customer waits for it to get to the boutique, when the return will be accepted or rejected by the boutique, depending on the reasons pointed by the customer, or the item conditions. Accordingly to that decision, the customer is then refunded, or not, by Farfetch. All these facilities, coupled with the fact that it is a completely free service to the client, aspire to provide him the best possible experience.

Similarly to what happens in the ordering process, the return process needs to be measured and controlled in order to ensure that all of the actors are meeting the agreed time. Thus, new metrics were defined in the scope of this thesis to ensure full control of the process.

In addition to these needs explained above, after meetings with Managers from different departments was possible to conclude that there was a gap in the existing metrics. None of the

used metrics were abstract enough to get an overall view of the current order status on the pipeline, neither in terms of quantity of orders, nor in terms of speed of the existing orders.

In conclusion, the main requirements that the solution must satisfy are:

1. Redesign of the Ordering Process metrics, splitting them into two perspectives (customer vs boutique);
2. Definition of new metrics to measure Step 6 – Time in Transit;
3. Definition of new metrics to measure the Return Process;
4. Definition of more abstract metrics for Senior Management control;
5. Design and implementation of proactive reporting methods;
6. Design and implementation of Operational Dashboards (Global and by Teams);

4.2 New Key Performance Indicators

4.2.1 Ordering Process

4.2.1.1 Total Speed of Sending

Similarly to what was already being done over the other steps, the Speed of Sending of the Step 6 – Parcel in transit started being measured.

$$timespentStep6 = ReceivedDate - SendParcelDate$$

One of the difficulties of measuring this KPI was the needed normalization of the dates. It was necessary to create a structure on Farfetch's database able to transform dates from all boutiques' sites and customer's sites to the GMT Time zone.

The new KPI Total Speed of Sending, representative of the time elapsed between the Order Creation and the Delivery to Customer, is calculated as follows:

$$Total\ Speed\ of\ Sending = ReceivedDate - \ OrderCreationDate$$

Even though the KPI Speed of Sending is essential to measure the Supply Operation performance, the new KPI Total Speed of Sending is more representative of the customer experience and is a powerful tool to act on that sense – that the goal is always to improve customer lifetime value, improving their buying experience continuously.

4.2.1.2 Speed of Sending Net

As described previously, the KPI Speed of Sending measures the time elapsed between the order creation and the pick-up date from the boutique (Send Parcel). However, it is important to retain that the boutiques don't have the same timetable as the website: the website runs 24/7, and the boutiques have their own schedule, mainly working from Monday to Friday. Thus, in order to better judge the time spent in the Order Processing, a new KPI was defined: the Speed of Sending Net, which not only disregards the time elapsed during the weekends and bank holidays, but also the time spent on hold by each order (Figure 9). In addition, it only combines the time spent on Boutique Steps, which are Step1, Step3 and Step5.

The possible hold time in each one of this steps are the following:

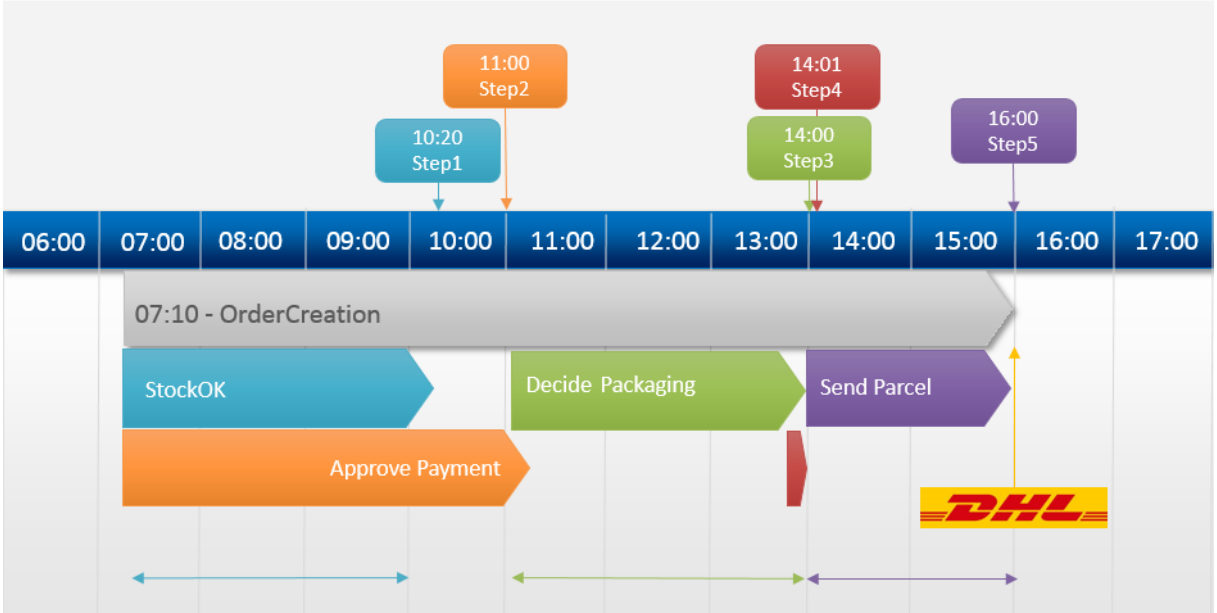


Figure 9 - Order Timeline (Net)

Hold Step 1 – Suggesting Alternative

When a customer orders an item from a Boutique, it is not guaranteed that the item will be available on the boutique stock, due to stock synchronization issues or to simultaneous sale online and on the shop floor. Therefore, if the item is out of stock, the boutique has the opportunity to suggest an item as alternative. The boutique notifies the decision to Farfetch's Customer Service, which in turn communicates the issue to the customer and awaits for his decision. The customer has then four days to decide if he wants to accept or reject the suggestion, and after that time the order necessarily progresses to the following step – or as cancelled, if the customer rejects the alternative, or as a Stock Ok, waiting for payment approval. The time elapsed between the boutique suggestion and the customer decision is not accountable to the boutique speed of sending.

Therefore, that time is considered as a hold time, and is calculated as follows:

$$timespentSuggestingAlternative = StockOkDate - SuggestAlternativeDate$$

Hold Step 5 – DHL Scan Issue

Occasionally there is some inconsistency between the actual send dates of orders and the dates indicated by the Courier system. When these faults are detected, the order is put on hold until the investigation process ends. The first step is to contact the customer in order to assess whether or not he actually received the order. In case of positive response, the order progresses manually to the next step. If not, Farfetch opens an investigation process involving the courier and the boutique until the order is tracked.

$$timespentUnderInvestigation = ReceivedDate - DHLScanIssueDate$$

The Speed of Sending Net is calculated as follows:

$$SpeedofSendingNet = TimeStep1WithoutWeekends - timespentSuggestingAlternative + TimeStep3WithoutWeekends + TimeStep5WithoutWeekends - timespentUnderInvestigation$$

4.2.1.3 SLA Speed of Sending Net

Similarly to what happens with the metric explained on 3.2, the Service Level Agreement Net represents the number of orders sent by the boutique to the customer in less than 48 hours Net – 48 hours disregarding Weekends, Holiday Banks and Farfetch Steps. The goal of this metric is to work as an evaluation metric for boutique's performance, being a guideline of their processing capacity. The metric is calculated as follows:

$$\%\ SLANet = \frac{\sum_{i=0}^{n}(SpeedofSendingNet(n) < 2)}{\sum_{i=0}^{n} i}, n = TotalofOrdersSent$$

The target for all boutiques is to achieve a SLANet of 95%, which means that boutiques need to send at least 95% of orders in less than 2 days Net.

4.2.1.4 Pipeline Ratio

All of the previous presented KPIs are extremely valuable in operational terms. However, they are not abstract enough for top management decisions. During the development of this thesis was detected the lack of a metric able to reflect the current global state of the ordering process, that would allow top managers to get a sense of the instantaneous performance level, and to alert them when that performance level was below an acceptable target.

That need was met with the definition and implementation of a new KPI, the Pipeline Ratio, which reflects the current efficiency level of the ordering process. This new metric is calculated as follows:

$$PipelineRatio = \frac{OrdersOnPipeline}{AverageofNewOrdersLast3days}$$

For instance, if in the last three days were created 300 orders, and currently the pipeline has 100 orders, the pipeline ratio is 1, which means that is needed one day to process the orders being created. In order to meet the targets defined for Speed of Sending metrics, the target for the Pipeline Ratio is to be below 1.5 days. If the Pipeline ratio is above 2.5 days it is considered that the Boutique is not being able to process the orders being created, and that therefore they will not be able to meet Speed of Sending Targets. This metric works as a proactive measure that allows the Supply Operations team to proactively alert the Boutique of a possible failure.

4.2.1.5 Current Speed of Sending Net

Another proactive metric developed is the Current Speed of Sending, which is the average speed of sending of the orders on the pipeline. This metric is calculated as follows:

$$CurrentSpeedofSendingNet = CurrentDate - OrderCreationDate$$

Similarly to the Pipeline Ratio, the Current Speed of Sending is able to proactively reflect the delay of the pipeline. The target is to stay below 1 day. The difference between the two metrics is that the first one represents the ability to respond to the amount of orders being created; the second reflects how quickly those orders are going to be processed.

4.2.1.6 No Stock Gross

In order to get a true view of the items being cancelled, the No Stock Gross metric was created, considering not only the items directly cancelled and the ones with a rejected alternative, but also the ones with an accepted alternative, since the original item was truly out of stock.

The No Stock Gross is calculated as follows:

$$No\ Stock = \frac{number\ of\ canceled\ items + SA\ Rejected + SA\ Accepted}{number\ of\ sold\ items} \times 100\%$$

The previous No Stock metric is now referred as No Stock Net, having a target of below 3%, whereas the No Stock Gross has a target of below 4%.

4.2.2 Return Process

4.2.2.1 *Timespent* Creating Return

The goal of measuring the time spent by the client creating the return is mainly to assess if the 14 days rule is being well defined by the system, and to assess if the outliers justify the readjustment of this timeframe. That time is calculated as follows:

$$timespentCreatingReturn = ReceivedDate - ReturnCreationDate$$

4.2.2.2 *Timespent* in Transit

Following the same logic accounted on 4.1.1, it is necessary to measure the Courier performance through this process as well. That time is calculated as follows:

$$timespentInTransit = ReceivedbyStoreDate - PickUpDate$$

4.2.2.3 *Timespent* Accepting / Refusing Return

A key indicator of boutiques performance is the time that it takes them to accept or reject the return, since it has a major impact on customer experience – the longer it takes the boutique to make a decision regarding the return, the longer it takes for the customer to receive the refund. The target defined for this measure is 2 working days. That time is calculated as follows:

$$timespentAccepting = AcceptedbyStoreDate - ReceivedbyStoreDate$$

4.2.3 Conclusion

In conclusion, the new KPIS are summed up in the table below:

Table 2 - KPI Summary

	KPI	Type	Target	Exception Point
Ordering Process	**Speed of Sending Gross**	Old	1.6 days	> 4 days
	Timespent1 Gross	Old	0.4 days	
	Timespent2 Gross	Old	0.45 days	
	Timespent3 Gross	Old	0.2 days	
	Timespent4 Gross	Old	0.1 days	
	Timespent5 Gross	Old	0.3 days	
	SLA Gross	Old	65%	< 40%
	Speed of Sending Net	New	0.9 days	> 3 days
	Timespent1 Net	New	0.3 days	
	Timespent2 Net	New	0.1 days	
	Timespent3 Net	New	0.15 days	
	Timespent4 Net	New	0.05 days	
	Timespent5 Net	New	0.3 days	
	Speed of Sending Total	New	--- *	--- *
	Timespent6	New	--- *	--- *
	SLA Net	New	92,5%	< 80%
	Pipeline Ratio	New	1.5 days	> 2.5 days
	Current SOS Net	New	< 1 day	> 1.6 days
	Net Promoter Score Boutique	Old	70%	< 50 %
	Net Promoter Score Farfetch	Old	70%	< 50 %
	No Stock Net	Old	< 3 %	> 5%
	No Stock Gross	New	< 3.5 %	> 6%
Return Process	**Return Time**	New	< 14 days	> 20 days
	TimespentCreating	New	---	> 14 days
	TimespentPickingUp	New	--- *	--- *
	TimespentInTransit	New	--- *	--- *
	TimespentAccepting	New	2 days	>4 days

*There is no target attributed to these metrics, since they depend on the combination of origin and destination countries.

4.3 New KPI Reporting Method

4.3.1 Proactive Reporting

One of the first actions took in order to improve results and overall performance was the set up of daily proactive reports, sent from the Supply Operations team to the Account Managers since the beginning of March.

Table 3 - Proactive Reporting - Boutique example

Boutique	delay Band	Step 1		Step2				Step3		Step4			Step5			Grand Total
		N	SA	N	PoB	BR	BT	N	JUST	N	JUST	DELAY	N	JUST	GER	
XPTO	x<1	35			1					1			10			47
XPTO	1<=x<2				3	1				1			29			34
XPTO	2<=x<4			3	6							1	2	1		10
XPTO	x>=4			9	4	1										5
XPTO Total		**35**			**14**	**2**				**2**		**1**	**41**	**1**		**96**

The main purpose of this report is to give an overview of the current state of the pipeline, showing all the orders on backlog that are being processed at the moment.

The report is divided by Boutique, presenting for each one the number of orders per step, divided in 4 categories called "delayBand", representative of the number of days that that order has spent on the pipeline so far. Those categories are:

- $x < 1$: in the pipeline for less than 1 day;
- $1 \leq x < 2$: in the pipeline for more than 1 day, but less than 2 days;
- $2 \leq x < 4$: in the pipeline for more than 2 days, but less than 4 days;
- $x \geq 4$: in the pipeline for more than 4 days;

Each step is also divided in the possible status within each one:

- Step 1:
  - **Normal** (N): Number of regular orders, that did not suffer any kind of justified delay;
  - **Suggest Alternative** (SA): Number of orders on Hold by Suggest Alternative;
- Step 2:
  - **Normal** (N): Number of regular orders, that did not suffer any kind of justified delay;
  - **Proof of Billing** (POB): Number of orders on Hold by Proof of Billing request;
  - **Brazilian Payment** (BR): Number of orders on Hold by PagSeguro (Brazilian Payment method that requests more days than normal)
  - **Bank Transfer** (BT): Number of orders on Hold by Bank Transfer;
- Step 3:
  - **Normal** (N): Number of regular orders, that did not suffer any kind of justified delay;
  - **Justified Delay** (JUST): Number of orders that have a Justified Delay, caused by a Hold on previous steps. (Orders that, for example, are now on step3, but were on Suggest Alternative on step1).
- Step 4:
  - **Normal** (N): Number of regular orders, that did not suffer any kind of justified delay;
  - **Justified Delay** (JUST): Number of orders that have a Justified Delay, caused by a Hold on previous steps.
  - **Requested Delay** (DELAY): Number of orders on Hold by a customer request or by Farfetch request.

- Step 5:
  - **Normal** (N): Number of regular orders, that did not suffer any kind of justified delay;
  - **Justified Delay** (JUST): Number of orders that have a Justified Delay, caused by a Hold on previous steps.
  - **German Request** (GER): Number of orders waiting for a special invoice due to Germany legislation.

When an order is in a Normal state, and has been on the pipeline for more than 2 days, the cell turns automatically red in order to capture the teams' attention – the order will miss the targets and therefore contribute to worse outcomes.

Another functionality of this report is the drill down. When double-clicking one filled cell, an extra sheet is created showing the order details:

Table 4 - Drill down capability example

BoutiqueOrder	Boutique	Pick-up Point	Step	OrderDate	DestCountry	Status	SOS	delayBand
XPTO10352	XPTO	Xpto 1	3	11-05-2014 18:57	Germany	NORMAL	2,625	2<=x<4
XPTO10342	XPTO	Xpto 2	3	11-05-2014 13:09	Poland	NORMAL	2,83	2<=x<4
XPTO10336	XPTO	Xpto 1	3	11-05-2014 08:36	Switzerland	NORMAL	3,04	2<=x<4
XPTO10335	XPTO	Xpto 1	3	11-05-2014 06:47	United States	NORMAL	3,125	2<=x<4
XPTO10334	XPTO	Xpto 3	3	11-05-2014 06:08	Canada	NORMAL	3,125	2<=x<4

Since the beginning of March, when this report was created and sent on a daily basis, the results have consistently improved, when compared with the same period of the previous year:

Table 5 - Year on Year Results (2013 vs 2014)

Year	Month	% Boutique Orders with SOS < 2 days - Net		Speed of Sending (avg days) - Net		Nº of Boutique Orders	
2013	February		90,66%		1,13		14653
	March		90,24%		1,13		16941
	April		90,50%		1,10		18680
	May		90,55%		1,08		19917
2013 Total			**90,49%**		**1,11**		**70191**
2014	February	0,536	91,19%	-0,084	1,04	48%	28393
	March	-0,410	89,83%	-0,004	1,13	50%	33581
	April	2,491	92,99%	-0,059	1,04	50%	37513
	May	0,502	91,05%	-0,07	1,01	53%	42369
2014 Total		0,817	**91,30%**	-0,042	**1,06**	51%	**141867**
Grand Total			91,08%		1,08		212.058

The percentage of orders sent in less than 2 days has increased, the time elapsed to ship the orders as diminished, despite the fact that the number of boutique orders have doubled.

4.3.2 Operations Dashboard

In order to concentrate all the information defined previously in a common platform, accessible to every member of the Operations Department and all top managers interested, the team decided on the creation of an Operations Dashboard.

The main requirements established for the Dashboard are:

1. Consolidation of the main metrics of the department;
2. Automatic refreshing of data;
3. Filtering capabilities;
4. Drill-down capabilities;
5. Integrated alert system;
6. Different levels of access;
7. Availability outside the company's network;
8. High data security.

4.3.2.1 Methodology

One of the main concerns when building a dashboard is the selection of the support software. Nowadays there are available a great variety of Business Intelligence and Analytics platforms to choose from, and therefore the first step taken on this process was benchmarking some of those platforms in order to knowingly decide on the most adequate one for the project.

The second step was the selection of the KPIS that should integrate the dashboards, and to create the queries to extract the data from Farfetch's databases and calculate the KPIs.

Finally, the planning and visual organization of the data on the dashboard took into account the requirements and preferences of the team members, to ensure that the tool becomes the most useful and intuitive as possible for all users involved.

Benchmarking

There is already available a Benchmarking Report for this tools, performed by Gartner, that was taken into consideration to make the decision (Sallam, et al. 2014). The analysis performed by Gartner defines BI and analytics as a software platform that delivers 17 capabilities across three categories: information delivery (reporting, dashboards, Ad hoc report/query, Microsoft Office integration and Mobile BI), analysis (interactive visualization, search-based data discovery, geospatial and location intelligence, embedded advanced analytics and online analytical processing) and integration (BI infrastructure, metadata management, business user data mash up and modelling, development tools embeddable analytics, collaboration and support for big data sources).

The results are presented in a Magic Quadrant (Figure 10), correlating the completeness of vision with the ability to execute, and segmenting the platforms into 4 categories: niche players, visionaries, challengers and leaders.

Figure 10- Gartner's Magic Quadrant

From the analysis of the Magic Quadrant and of the full report produced by Gartner, comparatively to the requirements elicited from the teams, it was possible to select two possible platforms: Tableau and Microsoft.

Other variables, not considered in the Gartner report, were taken into account in the decision making, including: pricing plans, availability in trial mode and ease of learning.

From that extra analysis is possible to conclude the following:

Table 6 - Benchmarking Variables

Variable: / Solution:	Pricing	Free trial availability	Ease of learning
Tableau Server	1000$ /year/user	Yes	Drag and drop system;
Microsoft Power Pivot with Sharepoint	250$ /year/user	Yes	Complex Power Pivot tables within Excel files environment;

Even though the investment to benefit from Tableau Server is bigger, due to the ease of learning sensed by all of Farfetch's analysts and the leader position indicated by Gartner's report, Tableau Server was the selected tool to build the Operations Dashboard.

Queries

All of the queries were produced using Structured Query Language (SQL) Server. The queries make the selection and manipulation of the data from Farfetch's databases to Tableau Server, making it possible to calculate and present the KPI metrics within Tableau environment.

Tableau has an integration functionality with SQL Server, allowing to insert the query directly in the tool. This allows for data refreshing directly from the company's databases to Tableau Server without manual interaction needed – Tableau offers the possibility to create a script enabling a scheduling functionality for automatic data updates.

The queries created are available (Annex A):

- Ordering Process
- Return Process
- No stock
- Orders on Pipeline
- Pipeline Ratio

To build the dashboards were also used two other queries, built by another analyst, that are not being included on the attachments (Fraud Process and Payments Process).

It was also developed the script to run the queries automatically, enabling data updates 3 times a day, and more frequent updates for the proactive measures. It is also possible to manually request a data update, whenever needed, without interference with the scheduling.

4.3.2.2 Global Operations Dashboard

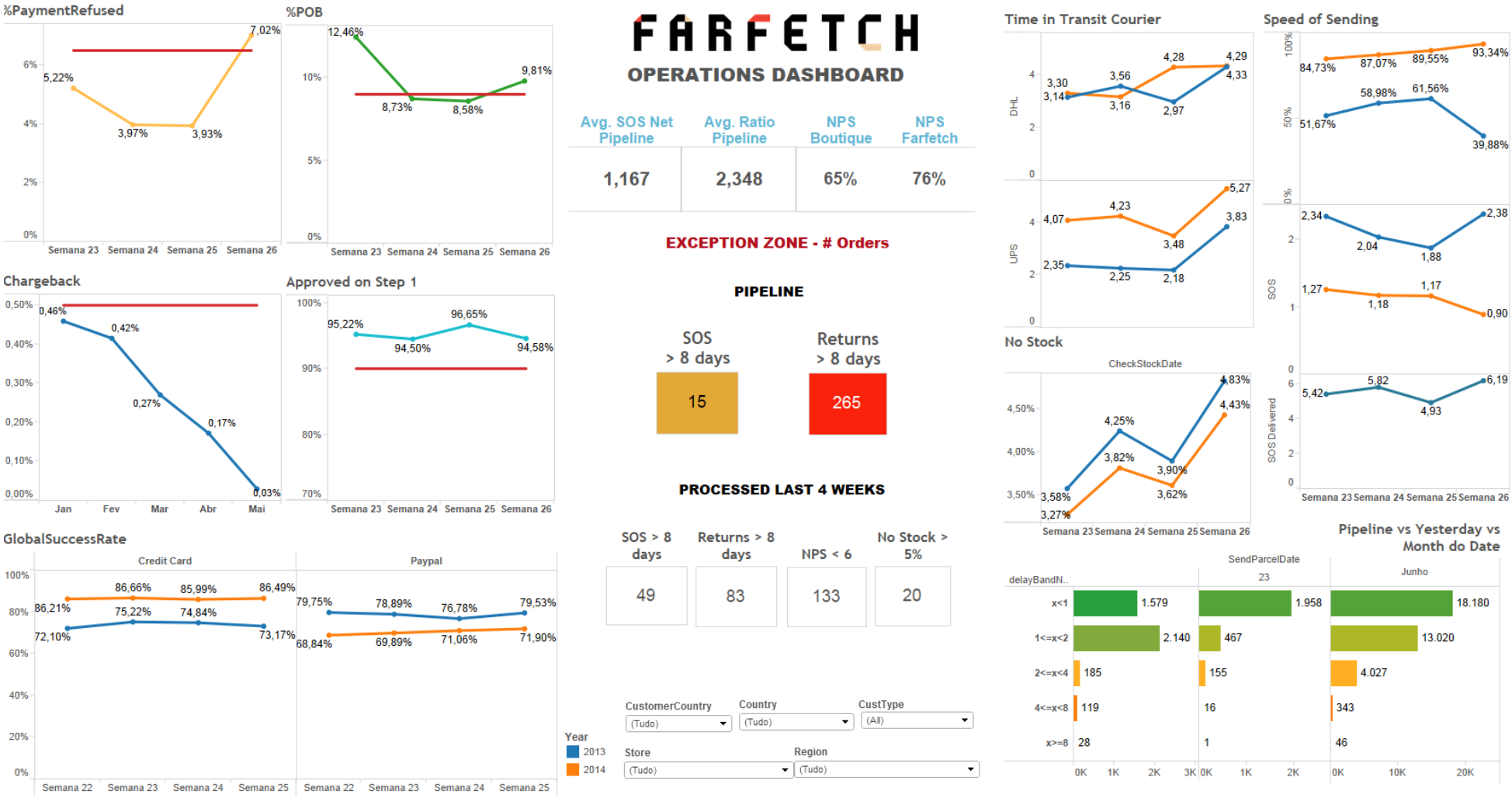


Figure 11- Global Operations Dashboard Overview

KPIs Selected

The main goal of the Global Operations Dashboard is to give an overview of the most important metrics of the department to department members and to managers across the company (Figure 11). In order for it to provide a critical analysis base of the results, some of the metrics are presented for the last 4 weeks (last 3 weeks and current week), and others are instant metrics, to provide a current perspective of the pipeline situation.

The selected KPIS for the global dashboard include some metrics that are not explained in chapter 4.1, because even though they are metrics from the Operations Department, they are limited to the Fraud and Payments team. Therefore, they were not developed in the scope of this thesis. Even though there is no visual limitation separating the different team's metrics on the dashboard, it is organized in five different areas:

- **Supply and Courier Metrics (right):**
  - **In Transit**: divided into DHL and UPS, the two main courier services, the graphs present the Average Time Spent in Transit, in days, for each of the services – the blue line is associated with the Express Service and the orange to the Standard Service. This metric is essential because it directly impacts the customer experience, and allows for evaluation of the courier services efficiency.
  - **Speed of Sending**: divided into SLA, Speed of Sending and Speed of Sending Total, the graphs presents the results in 2 different perspectives: Net (Orange line) and Gross (Blue Line). This metric is essential for the department to evaluate boutique's performance and to act on it, comparing last week's results with current week. The Speed of Sending Total, which represents the customer waiting time, considers only the Gross Perspective.
  - **No Stock**: the No Stock metric is one with most impact on the customer overall experience. Therefore, it is important to monitor it closely. The graph presents the results for the last 4 weeks showing the two perspectives for this metric, Net and Gross, respecting the same color coding used in Speed of Sending.
  - **Pipeline vs. Yesterday vs. Month to Date**: These column charts, divided into three perspectives, present the number of orders in each of the defined delay bands: orders with less than 1 day, between 1 and 2 days, between 2 and 4 days, between 4 and 8 days, and with more than 8 days. The 3 perspectives are the following: Orders currently on the pipeline, Orders Sent the last working day, and orders sent in the current month.
- **Common Operations Metrics (top center)**:
  - **Current Speed of Sending:** the second proactive KPI indicates the current speed of the orders on the pipeline, indicating a possible failure of the Net Speed of Sending targets.
  - **Pipeline Ratio:** in the center of the dashboard are displayed the two most important proactive KPIS; one of them is the Pipeline Ratio, indicating the capacity level of the pipeline in that moment. This metric allows for instant action, whereas the Speed of Sending allows only for reactions.
  - **Net Promoter Score Boutiques**: one way to get a feel of the customer perception towards the Boutiques performance is through the score attributed by the customers to the level of service. In order to get a wider view of the general opinion, the metric is presented for the last 6 months.

    - **Net Promoter Score Farfetch**: another essential metric to evaluate the success of the Operations Performance is the score attributed by the customers to the level of service delivered by Farfetch. In order to get a wider view of the general opinion, the metric is presented for the last 6 months.
- **Exception Zone (center):** one of the many advantages of the dashboard is the exception zone, which allow users to be proactively warned for the bad performers in terms of the most important metrics.
    - **Pipeline:**
        - **SOS > 8 days:** the number indicates the number of orders in the pipeline with more than 8 days. These orders should trigger an immediate action towards the boutique, alerting and requesting a reason for the delay, and should also trigger an action by the Customer Service, who after getting a clarification by the Boutique should proactively contact the customer to explain the delay and apologize, attempting to decrease the impact of the delay in the overall customer experience.
        - **Returns > 8 days:** Similarly to the previous metric, the number of returns received by the boutique but not accepted in more than 8 days are considered exceptions and need to be handled urgently. The action plan is the same: the Account Managers are proactively warned and the Customer Service as well.
    - **Processed in the last 4 weeks:**
        - **SOS > 8 days:** the number indicates the number of orders sent in the last 4 weeks with Speed of Sending over 8 days.
        - **Returns > 8 days:** the number indicates the number of orders sent in the last 4 weeks with Accepting time over 8 days.
        - **NPS < 6:** the number indicates the number of orders sent in the last 4 weeks with a NPS score below 6. When drilling down the information, it is possible to see the Order details, such as Speed of Sending, Time in Transit and Packaging Rating, in order to try and find correlations with the bad result.
        - **No Stock > 10 items and >5%:** the number indicates the number of boutiques which canceled more than 10 orders in the last 4 week, and due to that got a No Stock percentage of more than 5%. The combination of the two results tries to eliminate the small boutiques, that can get very high No Stock percentage, due to the low number of created orders, and to eliminate big boutiques that, due to the large number of orders created, can get a high number of canceled items, not affecting the No Stock percentage.
- **Fraud Metrics (left):**
    - Percentage of Proof of Billing
    - Percentage of Chargebacks
    - Percentage of Orders Approved on Step 1
- **Payments Metrics (left):**
    - Percentage of Payments Refused
    - Global Payment Success Rate (Credit Card vs Paypal)

4.3.2.3 Team Dashboard: Supply Operations

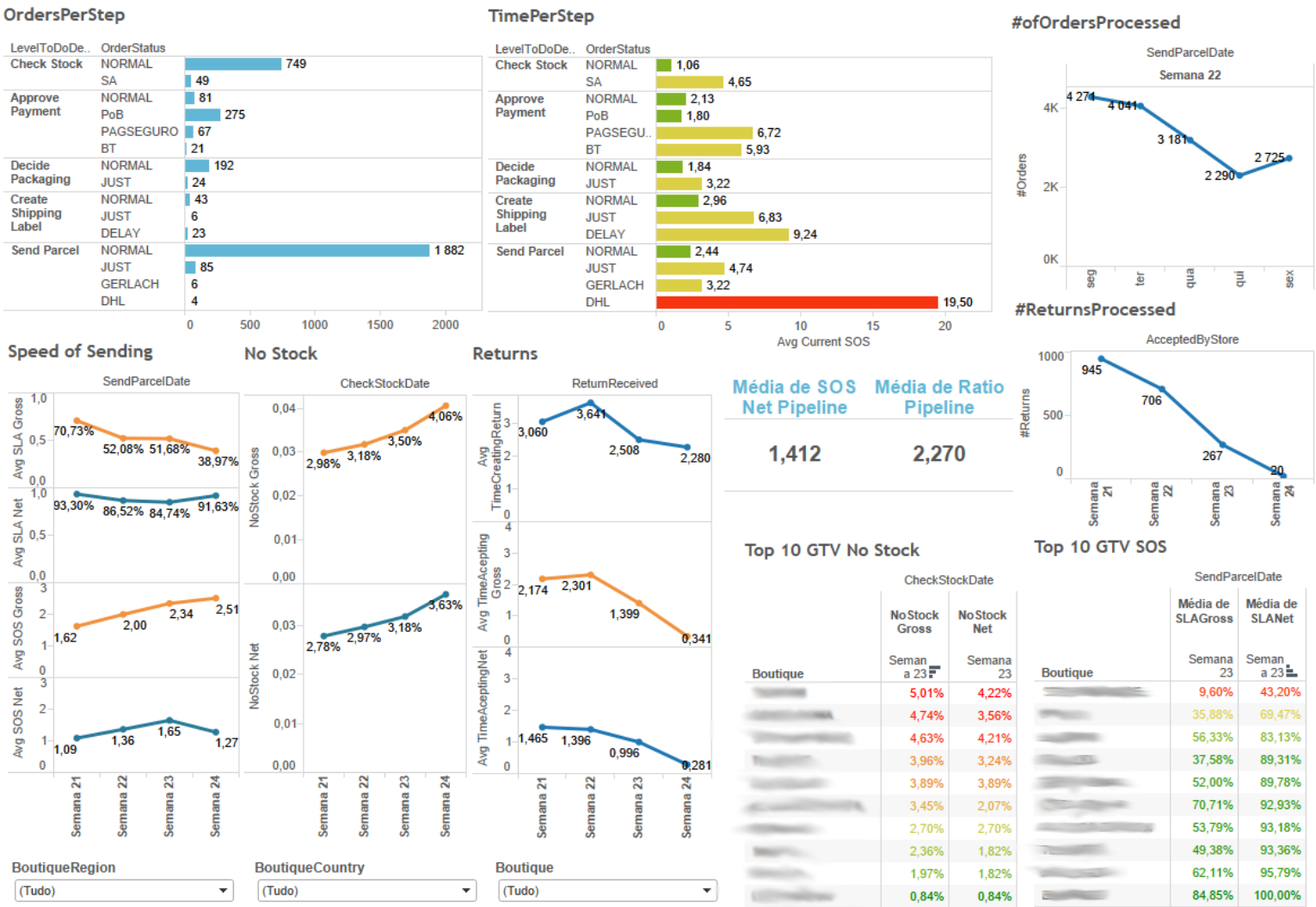


Figure 12 - Supply Operations Team Dashboard

KPIs Selected – Supply Operations

- **Order Processing**:
  - **Time Spent per Step**: similarly to the Time Spent per Step explained on the Global Dashboard, in the Supply Operations Dashboard it is presented with a second level of detail: the order status.
  - **Orders per Step**: similarly to the Time Spent per Step explained on the Global Dashboard, in the Supply Operations Dashboard it is presented with a second level of detail: the order status.
  - **Speed of Sending**: same as in Global Dashboard.
  - **No stock**: same as in Global Dashboard.
  - **# Orders Processed**: This line graph indicates the number of orders sent, per day, in the current week, indicating the order processing capability of the boutiques in the last few days.
  - **Current Speed of Sending:** the second proactive KPI indicates the current speed of the orders on the pipeline, indicating a possible failure of the Net Speed of Sending targets.
  - **Pipeline Ratio:** in the center of the dashboard are displayed the two most important proactive KPIS; one of them is the Pipeline Ratio, indicating the capacity level of the pipeline in that moment. This metric allows for instant action, whereas the Speed of Sending allows only for reactions.
  - **Top 10 GTV No Stock / Top 10 GTV Speed of Sending**: The 10 top selling boutiques are those who create more impact on the metrics, because they influence a larger number of orders. Therefore, the 10 top selling boutiques require an extra attention on their performance levels, in order to guarantee the success of the global metrics. That extra attention is possible due to the detailed information regarding No Stock and Speed of Sending results for the current week, visible on a table format.
- **Returns Processing**:
  - **Time Creating Return**: The graphs present the average of days spent by the customer to create the return.
  - **Time Accepting Return**: The graphs present the average of days spent to accept the return in 2 different perspectives: Net (Orange line) and Gross (Blue Line). This metric is essential for the department to evaluate boutique's performance and to act on it, comparing last week's results with current week.
  - **#Returns Processed**: This line graph indicates the number of returns accepted, per day, in the current week, indicating the return processing capability of the boutiques in the last few days.

4.3.2.4 Mutual Functionalities

According to the requirements elicited, the dashboards produced feature some functionalities that improve their interactivity and ease of use.

- **Filters**: One essential feature of any dashboard is the ability to filter the data sources, in order to create different views for different types of users – for instance, for a Top Manager is more interesting to get an overview of the global situation, but for an Account Manager it is more interesting to look at the results by boutique. In order to

achieve that, the dashboards have filters in the center of the panel that influence all the metrics simultaneously (Figure 13).
In the Global Dashboard it is possible to filter by Boutique Region, Boutique Country, Boutique and Customer Country. The filters can be used individually or simultaneously, acquiring multiple levels of data refinement.

Figure 13 - Filters

In the Supply Operations Dashboard it is also possible to filter by Boutique Region, Boutique Country and / or Boutique. The Customer Country is not as relevant, so it was excluded from this dashboard. It makes more sense to filter by Customer Country when analyzing the Courier performance, or the Fraud / Payment metrics, since these metrics are more influenced by the destination than the origin of the order.

- **Drill down:** the drill-down capability is one of the most powerful ones, because it allows the user to look beyond final results and get to the source of the data.
  When clicking on each value presented on the dashboard, it is possible to select the option to see the tabular data that feed that result.

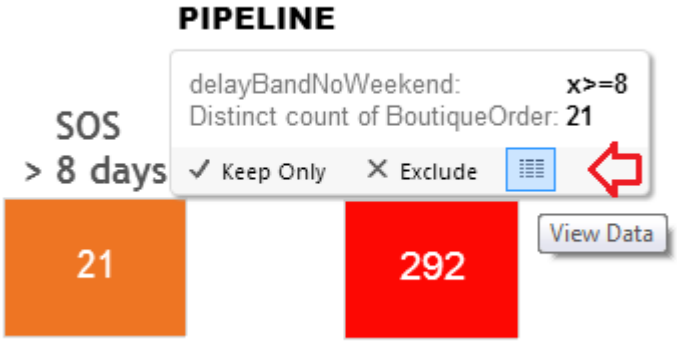
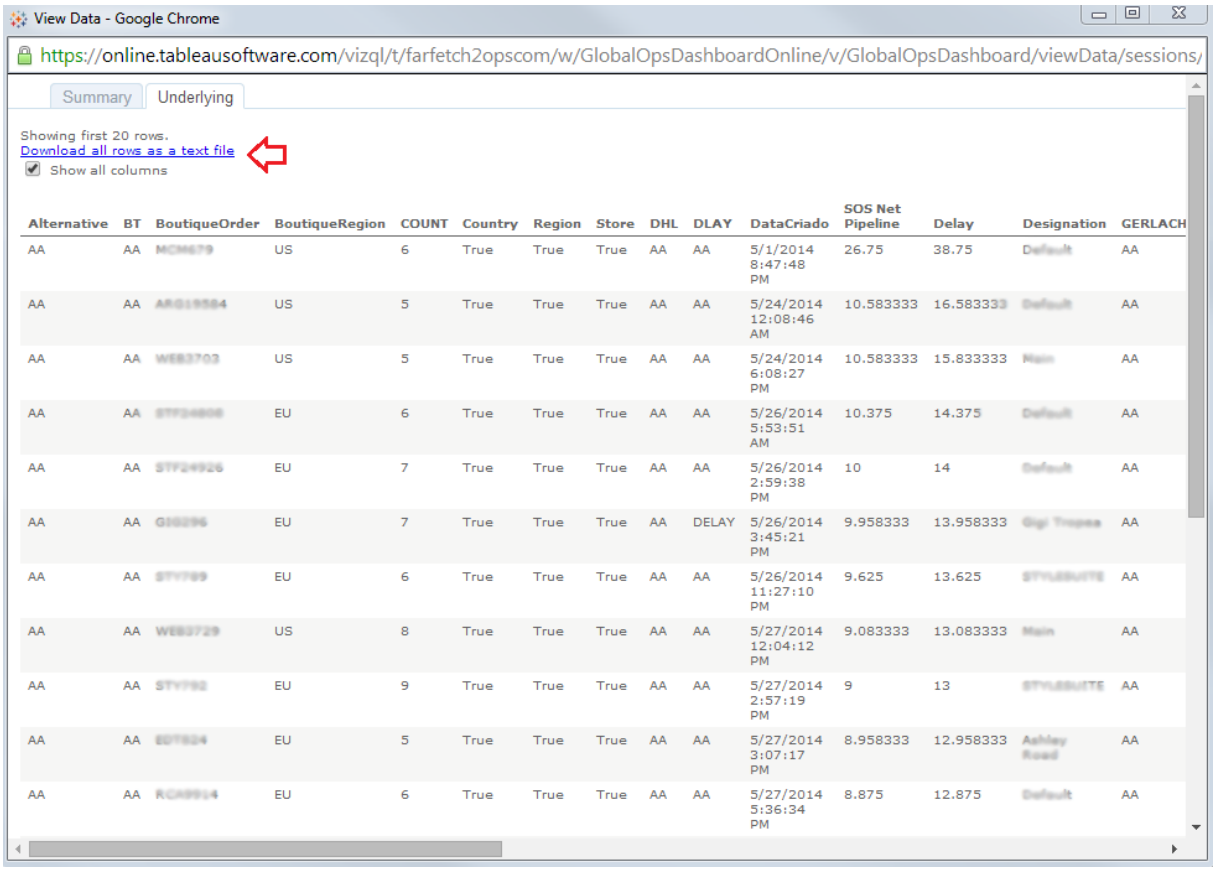


Figure 14 - Drill Down

That action will open a pop-up window showing all the detailed data, with the possibility to download the table in a text format.



Alternative	BT	BoutiqueOrder	BoutiqueRegion	COUNT	Country	Region	Store	DHL	DLAY	DataCriado	SOS Net Pipeline	Delay	Designation	GERLACH
AA	AA	[redacted]	US	6	True	True	True	AA	AA	5/1/2014 8:47:48 PM	26.75	38.75	[redacted]	AA
AA	AA	[redacted]	US	5	True	True	True	AA	AA	5/24/2014 12:08:46 AM	10.583333	16.583333	[redacted]	AA
AA	AA	[redacted]	US	5	True	True	True	AA	AA	5/24/2014 6:08:27 PM	10.583333	15.833333	[redacted]	AA
AA	AA	[redacted]	EU	6	True	True	True	AA	AA	5/26/2014 5:53:51 AM	10.375	14.375	[redacted]	AA
AA	AA	[redacted]	EU	7	True	True	True	AA	AA	5/26/2014 2:59:38 PM	10	14	[redacted]	AA
AA	AA	[redacted]	EU	7	True	True	True	AA	DELAY	5/26/2014 3:45:21 PM	9.958333	13.958333	[redacted]	AA
AA	AA	[redacted]	EU	6	True	True	True	AA	AA	5/26/2014 11:27:10 PM	9.625	13.625	[redacted]	AA
AA	AA	[redacted]	US	8	True	True	True	AA	AA	5/27/2014 12:04:12 PM	9.083333	13.083333	[redacted]	AA
AA	AA	[redacted]	EU	9	True	True	True	AA	AA	5/27/2014 2:57:19 PM	9	13	[redacted]	AA
AA	AA	[redacted]	EU	5	True	True	True	AA	AA	5/27/2014 3:07:17 PM	8.958333	12.958333	[redacted]	AA
AA	AA	[redacted]	EU	6	True	True	True	AA	AA	5/27/2014 5:36:34 PM	8.875	12.875	[redacted]	AA

Figure 15 - Drill down Report

- **Alerts:** When a metric is out of target, or leaning into failing the target, it is crucial for dashboard users to be alerted to the situation. The alert system pocked for this dashboards are visual alerts, respecting a traffic light range of colors: green when the results are good, yellow when the results are near failing the target, and red when the results failed the target.
  This system is only used for the pipeline metrics – in other words, for the proactive metrics that allow for an immediate reaction: Time Spent per Step, Orders per Delay (Pipeline vs. Yesterday vs. Month to Date), Pipeline Ratio and Current Speed of Sending, and the Pipeline Exception Zone.
  This type of visual alert is very effective, since the traffic light colors are intuitive and instantaneously understandable by the user.

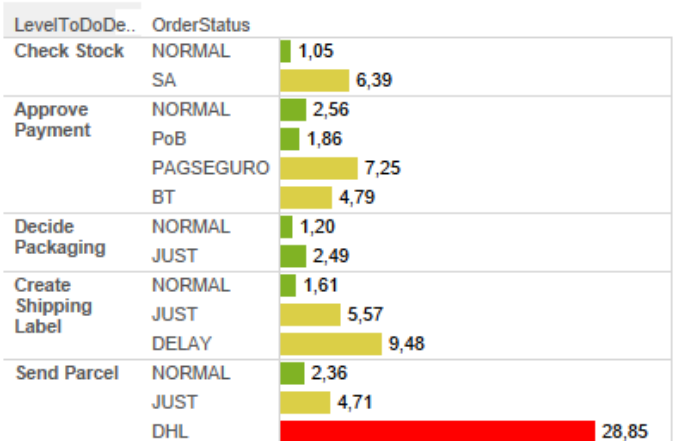


Figure 16 - Visual Alerts

When combined with the filtering options or the drill-down capability, the visual alerts turn the dashboard into a tool able to provide quick answers to eminent or current problems, allowing for a faster reaction and correction of the action plan. In example, when the orders on Step 5 – Send Parcel are above a certain value, for a specific boutique, the column turns red, letting the analyst concentrate on that problem. The analyst can then study the issue and recommend the Boutique to schedule a second pick-up on that day; if the orders accumulate on Step 1 – Check Stock, the analyst can predict that the boutique stopped the process, and can demand that they refocus on Farfetch orders.

- **Data Refreshment:** one of the most important characteristics of any data presentation platform is that it needs to be always updated with the latest results. Specifically when dealing with data referring to the order processing, it is key to the success of the dashboard that the data indicates what orders are being process in the exact moment the user opens it. In order to achieve that functionality, the dashboard was programmed to refresh the data sources continuously for the pipeline metrics, and three times a day for the remaining metrics. Weekly results are not as sensitive to time passing, and therefore don't require a continuous update. This would cause server overload and connection latency, reflecting on a delay on data presentation.

- **Online Publishing**: Once more meeting the requirements of the team, the dashboards are available on the web, allowing consulting in any device with internet connection, regardless of the network (there is no limitation in terms of consulting the dashboard only in the company's Intranet).
  To assure the confidentiality and security of the data, the dashboard requires an authentication through e-mail and password. The access to the dashboard is by invitation only.
  The main advantage of this feature is the possibility to have access to the dashboard when travelling or working from home. As explained before, Farfetch has offices in 5 locations, and 300 boutiques around the world, so travelling is a constant action for Farfetch's managers.

4.4 Setup and Process Improvement Tool

Considering the same problem scope previously explained, it was possible to identify another pain point – the lack of a support decision tool able to determine the best setup to implement in each boutique.

Each boutique has a very unique complexity, making it difficult to standardize processes and setups to implement globally. Each boutique has their schedules, pick-up hours, courier service, and staff, among others. Thus, each case is examined individually by the Account Managers in collaboration with the Supply Operations team. This process is time consuming and often does not have the desired effect, since over time it is possible to realize that the setup chosen for that boutique was not the most suitable.

As a starting point, it was necessary to develop a tool that would facilitate the data collection and storage, and that would be simple enough to fill by the Account Managers during visits to Boutiques. The method used was the development of a form, using the online software *Jotform*, gathering all the questions and answers needed to characterize each boutique. (Annex B).

The form is available online, through a secure link, and allow Account Managers to fill it in on the go. It adapts to a tablet or computer screen, making the usability experience convenient. The form does not require to insert all the answers at the same time, so an Account Manager can open it and fill it in several takes, and even edit the previous answers. The answers are automatically saved and/or updated into the system, and the analyst can then integrate them into Farfetch's database.

The second step towards a solution was to develop a segmentation rule able to categorize boutiques on their most important factor for Farfetch: the level of growth and the sales volume. The method used mimics the concept behind BCG matrixes, adapting the axis to Farfetch reality.

4.4.1 Boutique Positioning Matrix

The Boutique Positioning Matrix aims to classify boutiques according to their dimension and growth.

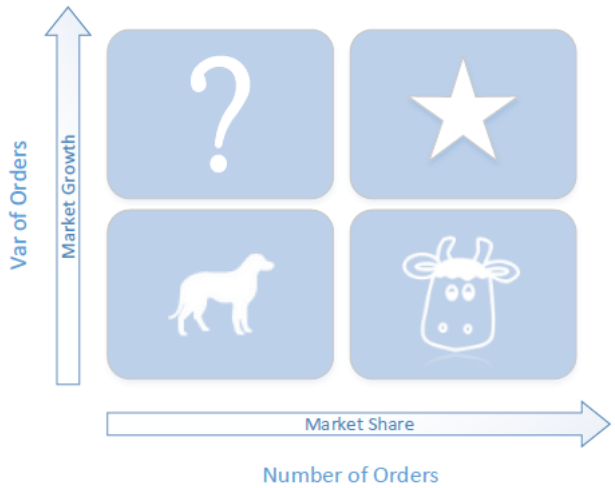


Figure 17 - Boutique Positioning Matrix

- **Question marks**: new boutiques, with high grow but still low market share; in other words, boutiques with positive variation of orders created, but still low overall number of orders.

- **Stars**: top boutiques, still growing (positive variation of orders created) and high number of overall orders. This are the boutiques who sustain the business and make it profitable.
- **Cows**: well established boutiques that, despite the slowdown on market growth, still have a high market share and are responsible for a high percentage of the sales.
- **Pets**: small boutiques that never reached a high market share, neither experienced a high market growth.

4.4.2 Boutique Location Matrix

Another factor that differentiates boutiques is their structure. Some boutiques have many different stores, all in the same street, but some others are divided across different countries. In order to segment and characterize the different possible structures, it was developed a second matrix:

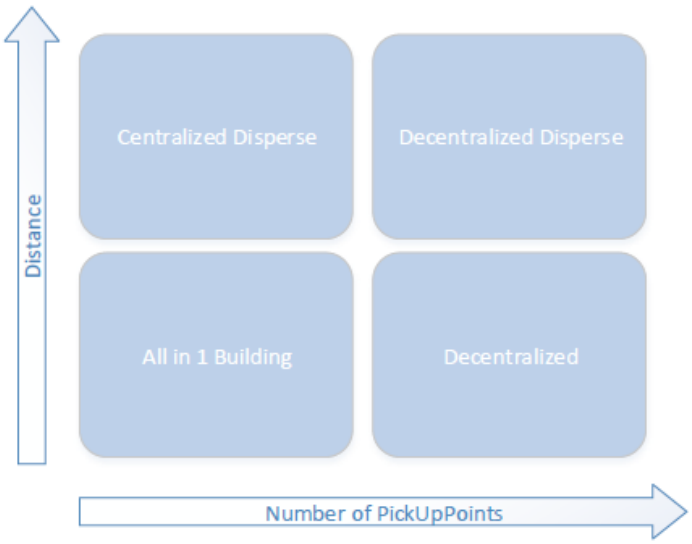


Figure 18 - Boutique Location Matrix

- **All in 1 Building**: boutiques that have only one building, concentrating store, warehouse and office all in the same place.
- **Decentralized**: Boutiques that have a large number of pick-up points, but all concentrated at a small distance from each other.
- **Centralized Dispersed**: Boutiques with 2 to 4 buildings, all geographically dispersed.
- **Decentralized Dispersed**: Boutiques with more than 4 buildings, all geographically dispersed.

4.4.3 Other variables

The other questions of the form originate the remaining variables that may or may not influence some of the metrics explained previously. The variables are the following:

- **Pick-up Hours**: the pick-up hours are analyzed as Morning vs Afternoon. When the pick-up hour is in the morning, the boutique has less time to prepare orders, then when the pick-up is later in the afternoon;
- **Daily Pick-Up**: Each boutique has either Daily Pick-up or Manual Pick-up. When the volume of orders justifies the need, the setup for daily pick-up is prepared. When a boutique has low number of orders, the pick-ups are scheduled manually whenever needed;

- **Number of Staff**: Number of people working for the Farfetch processes;
- **Communication**: The internal communication between the staff can be done in four different ways: in person, via Skype, via E-mail or via FFDM, the software provided by Farfetch to manage the orders. If the communication is via e-mail, the time elapsed between communications is bigger than in person, in example;
- **Weekends**: reflects if the boutique works for Farfetch on weekends;
- **Extra Hours**: reflects if the boutique works for Farfetch on hours beside the boutique open hours;
- **Process Orders by date**: reflects if the boutique processes Farfetch orders from oldest to newest;
- **Order Process**: This variable reflects one of three different options, reflecting the process followed by the staff when processing orders: They have specific hours per step; They process the order from step 1 to step 3 uninterruptedly; each person is responsible for a specific task / step;
- **Tool**: In order to follow and process the orders, the boutiques have two different tools available: Sales, a web platform, and FFDM, a software installed directly on their machines. Farfetch recommends the use of FFDM to process the orders, because the synchronization of information is faster and safer.
- **One-click Printing**: When processing the orders, the boutiques need to print a big number of invoices, customs paperwork, and documentation, among others. The number of copies and the need of some specific documents varies from country to country. In order to avoid the worry of printing the right number of invoices or documents in every order, the FFDM tool has a specific button than only needs to be set up once. The use of the "one-click printing" option reduces largely the time spent processing the orders.
- **Frequency Step1**: Number of times a day the boutique checks stock (Step1);
- **Frequency Step2**: Number of times a day the boutique decides packaging (Step 2);
- **Timing Step2**: reflects the moment of the process when the boutique decides the packaging. Some boutiques, mainly the ones who have on person responsible for each step, do this step before the order is actually ready to pack; others with a continuous flow may do it when they are actually packing, which improves the number of orders ready to send per day;
- **Inventory:** the performing of inventories can have a direct impact on the reduction of the No Stock metric, since it improves the exactitude of the stock available;
- **Frequency of Inventory:** reflects the number of times per season the boutique performs an inventory;
- **Returns:** reflects the average number of days it takes to a boutique to accept the return;
- **Customer Service**: if the boutique has a specific e-mail only for Customer Service queries, the time elapsed solving those queries is reduced;
- **Timing Item Creation, Service used, Courier used, Stock control, Barcode printing, Barcode insertion, Stock upload:** the purpose of this variable is beyond the scope of this thesis, since it refers to a process that was not explored;

To each of those variables was assigned a weight and a sign, depending on the metric. The weight is attributed to the question, and the sign to the answer. Not all of the variables influence all of the metrics. So far, that work has been developed to Speed of Sending metric.

The mapping of the questions and answers is explained in Table 7:

Table 7 - Question and Answer Mapping

Questions	Variables	SOS Weight	Answer	SOS Signal
How many stores does the partner have?; How is the partner structured?	Location Matrix	0,2	All in 1 Building	1
How many stores does the partner have?; How is the partner structured?	Location Matrix	0,2	Decentralized	0,5
How many stores does the partner have?; How is the partner structured?	Location Matrix	0,2	Centralized Dispersed	-0,5
How many stores does the partner have?; How is the partner structured?	Location Matrix	0,2	Decentralized Dispersed	-1
Internal data: Sales Volume and Variation	Positioning Matrix	0,2	Question Mark	-1
Internal data: Sales Volume and Variation	Positioning Matrix	0,2	Star	0,5
Internal data: Sales Volume and Variation	Positioning Matrix	0,2	Cow	1
Internal data: Sales Volume and Variation	Positioning Matrix	0,2	Pet	-0,5
Pickup Hours	Pickup Hours	0,1	Morning	-1
Pickup Hours	Pickup Hours	0,1	Afternoon	1
Pickup Hours - Daily?	Daily Pick-Up	0,02	Yes	1
Pickup Hours - Daily?	Daily Pick-Up	0,02	No	-1
How many people are allocated to each step?	Number of Staff	0,07	[1,2] names	-1
How many people are allocated to each step?	Number of Staff	0,07	[3,+inf[	1
Do they process orders during weekends?	Weekends	0,05	Yes	1
Do they process orders during weekends?	Weekends	0,05	No	-1
Do they work extra hours only for Farfetch?	Extra Hours	0,05	Yes	1
Do they work extra hours only for Farfetch?	Extra Hours	0,05	No	-1
Do they check the orders by date (oldest to newest?)	Process Orders by date	0,05	Yes	1
Do they check the orders by date (oldest to newest?)	Process Orders by date	0,05	No	-1
Please select the most accurate description:	Order Process	0,05	They have specific hours per step	0
Please select the most accurate description:	Order Process	0,05	They process the order from step 1 to step 3 uninterruptedly	1
Please select the most accurate description:	Order Process	0,05	Each person is responsible for a specific task / step	-1
How many times per day they perform this step? (Step1)	Frequency Step1	0,04	[1,3]	-1
How many times per day they perform this step? (Step1)	Frequency Step1	0,04	[3,+inf[	1

Questions	Variables	SOS Weight	Answer	SOS Signal
How many times per day they perform this step? (Step2)	Frequency Step2	0,04	[1,3]	-1
How many times per day they perform this step? (Step2)	Frequency Step2	0,04	[3,+inf[	1
When do they decide the packaging?	Timing Step2	0,04	Before the order is ready to pack	-1
When do they decide the packaging?	Timing Step2	0,04	When they are actually packing	1
How do they pass the information inside them team?	Communication	0,02	E-mail	-0,5
How do they pass the information inside them team?	Communication	0,02	Skype	1
How do they pass the information inside them team?	Communication	0,02	In person	0,5
How do they pass the information inside them team?	Communication	0,02	FFDM	-1
Do they use one-click-printing?	One click Printing	0,03	Yes	1
Do they use one-click-printing?	One click Printing	0,03	No	-1
Does the store have a specific e-mail for Customer Service?	Customer Service	0,02	Yes	1
Does the store have a specific e-mail for Customer Service?	Customer Service	0,02	No	-1
The store uses Sales or FFDM for order processing?	Tool	0,02	Sales	-1
The store uses Sales or FFDM for order processing?	Tool	0,02	FFDM	1

To each variable there is a possible answer, with an associated signal, indicating if the answer influences positively or negatively the Speed of Sending results. The formula developed to calculate the Processing Capacity for each boutique, in terms of Speed of Sending, is the following:

$$ProcessingCapacity(SpeedofSending) = \sum_{i=1}^{16} SOSWeight(i) * SOSSignal(i)$$

The range of possible results vary from [-1,1], being -1: very negative aptitude for speed of sending results, and 1: very positive aptitude for speed of sending results.

In order to better understand the method of calculation, three boutiques were used as examples.

Table 8 - Boutique A Setup

Variables	SOS Weight	Answer	SOS Signal	Weight * Signal
Location Matrix	0,2	All in 1 Building	1	0,2
Positioning Matrix	0,2	Cow	1	0,2
Pickup Hours	0,1	Afternoon	1	0,1
Daily Pick-Up	0,02	Yes	1	0,02
Number of Staff	0,07	[1,2] names	-1	0,07
Weekends	0,05	No	-1	-0,05
Extra Hours	0,05	Yes	1	0,05
Process Orders by date	0,05	Yes	1	0,05
Order Process	0,05	They process the order from step 1 to step 3 uninterruptedly	1	0,05
Frequency Step1	0,04	[1,3]	-1	0,04
Frequency Step2	0,04	[1,3]	-1	0,04
Timing Step2	0,04	When they are actually packing	1	0,04
Communication	0,02	In person	0,5	0,01
One click Printing	0,03	Yes	1	0,03
Customer Service	0,02	No	-1	-0,02
Tool	0,02	FFDM	1	0,02
			TOTAL	0,85

$$ProcessingCapacity(SpeedofSending)_{StoreA} = 0{,}85$$

Table 9 - Boutique B Setup

Variables	SOS Weight	Answer	SOS Signal	Weight * Signal
Location Matrix	0,2	Decentralized Dispersed	-1	-0,2
Positioning Matrix	0,2	Question Mark	-1	-0,2
Pickup Hours	0,1	Afternoon	1	0,1
Daily Pick-Up	0,02	No	-1	-0,02
Number of Staff	0,07	[1,2] names	-1	-0,07
Weekends	0,05	No	-1	-0,05
Extra Hours	0,05	No	-1	-0,05
Process Orders by date	0,05	Yes	1	0,05
Order Process	0,05	Each person is responsible for a specific task / step	-1	-0,05
Frequency Step1	0,04	[1,3]	-1	-0,04
Frequency Step2	0,04	[1,3]	-1	-0,04
Timing Step2	0,04	When they are actually packing	1	0,04
Communication	0,02	Skype	1	0,02
One click Printing	0,03	Yes	1	0,03
Customer Service	0,02	Yes	1	0,02
Tool	0,02	FFDM	1	0,02
			TOTAL	-0,44

$$ProcessingCapacity(SpeedofSending)_{StoreB} = -0{,}44$$

Table 10 - Boutique C Setup

Variables	SOS Weight	Answer	SOS Signal	Weight * Signal
Location Matrix	0,2	Decentralized	0,5	0,1
Positioning Matrix	0,2	Pet	-0,5	-0,1
Pickup Hours	0,1	Morning	-1	-0,1
Daily Pick-Up	0,02	No	-1	-0,02
Number of Staff	0,07	[1,2] names	-1	-0,07
Weekends	0,05	Yes	1	0,05
Extra Hours	0,05	No	-1	-0,05
Process Orders by date	0,05	Yes	1	0,05
Order Process	0,05	They process the order from step 1 to step 3 uninterruptedly	1	0,05
Frequency Step1	0,04	[1,3]	-1	-0,04
Frequency Step2	0,04	[1,3]	-1	-0,04
Timing Step2	0,04	When they are actually packing	1	0,04
Communication	0,02	In person	0,5	0,01
One click Printing	0,03	Yes	1	0,03
Customer Service	0,02	No	-1	-0,02
Tool	0,02	Sales	-1	-0,02
			TOTAL	-0,13

$$ProcessingCapacity(SpeedofSending)_{StoreC} = -0{,}13$$

According to the results, Boutique A, with a Processing Capacity of 0,85, is the most able of the three to achieve good Speed of Sending Results. The combination of being a store concentrated in only One Building, with Daily Pick-up from the Courier in the afternoon makes it one of the preferable setups for Speed of Sending. The fact that, according to the Positioning Matrix, they are now "Cow", indicate that the level of commitment with the Farfetch business is high, which led the boutique to a sustainable position. The level of commitment has a positive correlation with Speed of Sending Results.

Boutique B, the one with the lowest Processing Capacity, may reveal some setup or process definition problems. The fact that they are still Question Marks indicates that the Account Manager needs to provide extra support to this store, in order to, in the long term, improve the Processing Capacity. For instance, if the number of orders increases in the future, it may pay-off to change the pick-up setup to a Daily one, or to persuade the store to hire more staff. The store is divided into multiple locations, far apart from each other, which may also require the establishment of multiple pick-up points. The centralization of the orders to be picked-up has a negative correlation with Speed of Sending Results.

The final store analyzed, Boutique C, shows a low level of commitment, due to the classification of the Positioning Matrix. When a boutique evolves to a Pet, it means that it did not actually achieve a significant market share in the business to thrive. However, the majority of the processes implemented are fruitful, which lead to a Processing Capability of -0.13, revealing that the combination of the variables have a negative but low impact on the Speed of Sending results.

5 Conclusions and Future Projects

With the markets becoming everyday more competitive and shrewd, the reality is that measuring and controlling a company's performance level is no longer a management desire, but a management need.

The luxury segment customer is a demanding one, expecting the best service possible, not being afraid of expressing his displease, especially in an online environment. For all these reasons, the development of new Key Performance Indicators, the building of Proactive Reports and the creation of the Global Operations Dashboard were of high importance to acquire the means to serve the customer at the highest level.

5.1 Main Results

All of the new Key Performance Indicators are well established and are being used daily to control the supply chain performance at the company. Even though it was a radical change, all staff was guided through the process and trained to understand the meaning and purpose of all KPIS. In addition, results are now more accurate and reliable, since all dates involved are being normalized to GMT Time zone, making all measures even.

With the development of the KPIS, the Supply Operations team and the Account Managers became more aware of each Boutique Performance, through daily e-mails with the reports and weekly meetings to discuss the results of the worst performers, exchanging knowledge, trying to understand what changes can be made to the Boutique's processes and if the company is providing enough feedback to the Boutique about their results.

In addition to the reports provided to the Account Managers, the Supply Operations team is also providing individual reports to the Boutiques who solicited them, showing each day the orders on the pipeline that need to be dispatched sooner.

All these initiatives are contributing to the overall improvement of performance results, visible mainly on Speed of Sending results that decreased the elapsed time between Order Creation and Dispatch in 5,16% , despite the number of orders increasing 67% when comparing with the same period of 2013 (February to May, included). These new metrics allowed the teams to sustain the results, even though the large increase in sales indicated a seriously damage to Boutique's performance. These results are not only important in the short term, making the customer pleased, but also in the long term.

In the short term, it is possible to find a clear positive correlation between the Speed of Sending results and the NPS results, indicating that Speed of Sending success has a direct impact on the customer satisfaction (Annex C).

Besides this, in the long term, it is also possible to find a very important positive correlation for the business. The Speed of Sending results are positively correlated with the Customer Return Rate, which proves that providing a good experience to the customer today will guarantee the company more sales in the future (Annex C).

The division of the Speed of Sending metric in its components, the Time Spent in each step, allowed the creation of the proactive report and the development of all proactive measures visible on the dashboard. The main advantage of these new measures is that they enable Farfetch to contact boutiques before they fail their targets, diminishing the overall Speed of Sending time and consequently improving the customer experience and satisfaction. Being reactive to results rather than proactive only allow companies to activate plans of damage control, trying

to please customers after their complaints. With the implemented proactive measures, Farfetch is now able to proactively contact customers that Farfetch knows will not receive their orders on time, apologizing in the first place and explaining the reason for the delay.

Another innovation was the measures established to control the Return Process. This process was not given enough attention to, and since it has a large impact on the customer experience and customer satisfaction, the need to control it was evident.

The implementation of the dashboard facilitated the transition into all the new metrics created. The staff finds the visual information easy to read, and the drill-down capability has allowed the creation of simple reports. The dashboard is currently being used by 3 out of the 4 Operations teams, in Portugal, the United Kingdom and the United States.

5.2 Further Developments

The monitoring and controlling of the service performance is never a finished job. The metrics should constantly evolve and adapt to the business goals and targets. It is vital to keep building the metrics according to business decisions in order to create a unique flow for the company, where everyone works with the same goal in mind.

The dashboard itself should not be seen as a static tool. It should constantly adapt to teams' needs, allowing for the most efficient control. The targets of the exception zone should also be lowering, in order to become more demanding to the boutiques, and to make the experience continuously better for customers.

As a future project, another dashboard should be developed for the Brazilian team, adapted to their needs and metrics, since the Ordering Process in Brazil is different from the European and North American ones.

The creation of the form described in 4.3 opened room for the development of a support decision tool that should be implemented in the final quarter of this year. The main goal of the tool is to read the data from the form and calculate the total capacity of the boutique, not only in terms of Speed of Sending, as described, but in terms of other metrics such as No Stock or Returns Accepting time. Some variables can have a positive impact on Speed of Sending but a negative impact on the No Stock, so the tool should be able to identify those compromises and calculate the overall processing capacity accordingly. The tool should then allow Supply Operations' Analysts to change the inserted data in order to simulate better setups, monitoring at the same time the capacity result. The tool will also facilitate the setup decisions for new boutiques partnering up with Farfetch.

Another metric that should be considered in the future, now that the new metrics are stable and understood by the team, is the creation of a Boutique Score. This score would be the combination of metrics such as Speed of Sending, No Stock, NPS and Return Accepting Time, each one with a different weight that need to be analyzed first. The Boutique Score would allow the creation of rankings, which nowadays is still not possible. It is possible to classify the best boutique in terms of Speed of Sending, the best boutique in terms of No Stock, and so on, but is not possible to rank Boutiques by their overall performance.

In addition to the Boutique Score, another valuable metric would be the Customer Score. Currently almost all the metrics are still focused on the Boutique Level, and not on Customer Experience. The Customer Score should reflect the overall experience of the customer so far with Farfetch, by weighting the number of orders sent to that customer with a good Speed of Sending result, the number of orders with a bad Speed of Sending result, the number of No

Stocks, the number of times the customer had to contact the Customer Service team, and so on. This metric would allow to identify if the bad experiences are randomly occurring to different customers or if some customers are being more hurt than others. An action plan could be developed in order to deal with the most penalized customers, based on rewards or other type of incentives. This could improve their repurchase rate and diminish the bad experience, avoiding bad reviews and negative word-of-mouth.

The knowledge gained with the creation of the Operations Dashboard can also be recycled and applied to other Departments. For instance, the Customer Service department is another one very rich on metrics related to Customer experience. Some of those metrics have to do with customer waiting time for Customer Service responses, the number of contacts needed to solve a query, the success rate on solving queries. All of these metrics have a direct impact on the customer perception of Farfetch and can have a direct impact on the repurchase rate.

The two departments should work together in the development of a common dashboard correlating their metrics. This could provide an enriched vision of the experience that Farfetch is actually offering to the customer, not only though the Ordering and Return Processes, but also from the Customer Service point of view.

Since Farfetch is a growing business, the diversity and number of services offered to the client is certainly not static. With the development of new services, the creation of KPIs should be considered from the beginning, in order to avoid the delivery of services below the Farfetch targeted level. The lack of monitoring should be avoided at all times, since it is the only way to keep improving and to keep growing as a healthy and appreciated business.

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ANNEX A: Queries

Ordering Process

```
select * ,    CASE WHEN SOSWithoutHoldsWeekends<1 THEN 'X<1'
                WHEN SOSWithoutHoldsWeekends <2 THEN '1<=X<2'
                WHEN SOSWithoutHoldsWeekends <4 THEN '2<=X<4'
                WHEN SOSWithoutHoldsWeekends <8 THEN '4<=X<8'
                ELSE 'X>=8' END delayBandNet,
          CASE WHEN SOS<2 then 1 else 0 end as SLAGross,
          CASE WHEN SOSWithoutHoldsWeekends<2 then 1 else 0 end as SLANet


from (
select   res.[SiteID]
        ,res.[OrderID]
         ,case when (cast(bo.Region as Numeric)) = 0 then 'EU' else (case when (cast(bo.Region as Numeric)) = 1 then 'US' else 'BR' end) end AS BoutiqueRegion
         ,paises.Nome as BoutiquePais
         ,res.sCountry as ShippingCountry
         ,ams.CompleteName as AccountManager
         ,fadd.Designation
         ,bo.nome as Boutique
         ,case when res.courier = 10 then 'DHL' else case when courier = 1 then 'UPS' else case when courier = 2 then 'ManualProvider' end end end as Courier
         ,res.ShipType as ShipType
         ,res.DataCriado as OrderCreationDate
         ,res.step5GMT as SendParcelDate
         ,res.step6GMT as ReceivedDate
         ,month(step5GMT) as Month
         ,year(step5GMT) as Year
         ,datepart(week,step5GMT) as Week
         ,cast(timespent1 as float) as timespent1
         ,cast(timespent2 as float) as timespent2
         ,cast(timespent3 as float) as timespent3
         ,cast(timespent4 as float) as timespent4
         ,cast(timespent5 as float) as timespent5
         ,cast(timespent6 as float) as timespent6
         ,cast(case when timespentAlt>0 then timespentuntilAltWithoutWeekend else timespent1WithoutWeekend end as float) as timespent1Net
         ,cast(case when g.PayType = 'Pagseguro' then 0 else (case when timespentPoB > 0 then timespentuntilPoB else case when timespentBT > 0
         then timespentuntilBT else timespent2 end end ) end as float) as timespent2Net
         ,cast(timespent3withoutWeekend as float ) as timespent3Net
         ,cast(case when timespentDelay > 0 then timespentuntilDelayWithoutWeekend else timespent4WithoutWeekend end as float) as timespent4Net
         ,cast(case when timespentDHL > 0 then timespentuntilDHLWithoutWeekend else case when (g.TotalComShip > 1000
         and paises.PaisID = 77 and paises2.ZonaEuro = 0) then case when (cast(timespent5WithoutWeekend as float)-1.0) < 0
         then 0 else cast(timespent5WithoutWeekend as float)-1.0 end else timespent5WithoutWeekend end end as float) as timespent5Net
         ,cast(timespent as float) as SOS
         ,cast(timespentwithoutWeekend as float) SOSWithoutWeekends
         ,cast(timespent-(timespentAlt+timespentBT+timespentDelay+timespentPoB+timespentDHL)as float) AS SOSWithoutHolds
         ,(cast(case when timespentAlt>0 then timespentuntilAltWithoutWeekend else timespent1WithoutWeekend end
         + case when g.PayType = 'Pagseguro' then 0 else case when timespentPoB > 0 then timespentuntilPoB else
         case when timespentBT > 0 then timespentuntilBT else timespent2withoutWeekend end end end
         + timespent3withoutWeekend
         + case when res.step4CaptureA > res.stp4 or res.step4CaptureR > res.stp4 then 0 else case when timespentDelay > 0
         then timespentuntilDelayWithoutWeekend else timespent4WithoutWeekend end end
         + case when timespentDHL > 0 then timespentuntilDHLWithoutWeekend else
         case when (g.TotalComShip > 1000 and paises.PaisID = 77 and paises2.ZonaEuro = 0) then
         case when (cast(timespent5WithoutWeekend as float)-1.0) < 0 then 0 else cast(timespent5WithoutWeekend as float)-1.0 end
         else timespent5WithoutWeekend end end as float)) As SOSWithoutHoldsWeekends
         case when res.otherstep is not null and res.timespentAlt = 0 then 1 else 0 end as nostockdireto,
         case when res.otherstep is not null and res.timespentAlt > 0 then 1 else 0 end as SARejected,
         -- o calculo do no stock gross inclui o nostockdireto, SA Rejected e SA Accepted
         case when res.otherstep is null and res.timespentAlt > 0 then 1 else 0 end as SAAccepted
         ,cast(timespentTotal as float) SOSTotal
```

```
from (
SELECT      g.SiteID, g.OrderID, g.sCountry, g.DataCriado,
            res1.Courier,
            case when g.shipType in (33,16) then 'Express' else case when g.ShipType in (2,37) then 'Standard' end end as ShipType,
            step1.date AS step1, step2.date AS step2, step3.date AS step3, step4.date AS stp4, step5GMT.date AS step5GMT,
            step4CaptureA.date as step4CaptureA, step4CaptureR.date as step4CaptureR,
            stepAlternative.date AS stepAlternative, stepPoBAccept.date as stepPoBAccept, stepPoB.date as stepPoB,
            stepBT.date AS stepBT, stepBTAccept.date as stepBTAccept, stepDelay.date as stepDelay, stepDHL.date AS stepDHL,
            step6GMT.date as step6GMT,  otherstep.date as OtherStep,
            isnull(CAST(step1.date - g.DataCriado AS float),0) AS timespent1,
            isnull(CAST((step1.date - g.DataCriado) -  BI_SYNC.dbo.NumberofWeekendDays(g.DataCriado,step1.date)-
            BI_SYNC.dbo.NumberofExceptionDays(g.DataCriado,step1.date, paises.paisID) AS float) ,0) AS timespent1WithoutWeekend,
            isnull(CAST(step2.date - step1.date AS float),0) AS timespent2,
            isnull(CAST((step2.date - step1.date) -  BI_SYNC.dbo.NumberofWeekendDays(step1.date,step2.date)- case when g.countryID = 28
            then BI_SYNC.dbo.NumberofExceptionDays(step1.date,step2.date, g.countryID) else 0 end AS float),0) AS timespent2WithoutWeekend,
            isnull(CAST(stepAlternative.date - g.DataCriado AS float),0) AS timespentuntilAlt,
            isnull(CAST((stepAlternative.date - g.DataCriado) - BI_SYNC.dbo.NumberofWeekendDays(g.DataCriado,stepAlternative.date) AS float),0)
            AS timespentuntilAltWithoutWeekend,
            isnull(CAST(step1.date - stepAlternative.date AS float),0) AS timespentAlt,
            case when stepPoB.date < step2.date and stepPoBAccept.date < step2.date then
            (CASE when stepPoB.date > step1.date then CAST(stepPoB.date - step1.date AS float) else 0 end) else 0 end AS timespentuntilPoB,
            case when stepPoB.date < step2.date and stepPoBAccept.date < step2.date  then
            (CASE when stepPoB.date > step1.date then CAST((stepPoB.date - step1.date) - BI_SYNC.dbo.NumberofWeekendDays(step1.date, stepPoB.date)
            - case when g.countryID = 28 then BI_SYNC.dbo.NumberofExceptionDays(step1.date, stepPoB.date, g.countryID) else 0 end AS float)
            else 0 end) else 0 end AS timespentuntilPoBWithoutWeekend,
            case when stepPoB.date < step2.date and stepPoBAccept.date < step2.date  then
            isnull((CASE when stepPoB.date > step1.date then CAST(stepPoBAccept.date - stepPoB.date AS float) else
            CAST(stepPoBAccept.date - step1.date AS float) end),0) else 0 end AS timespentPoB,
            isnull(CAST(stepBT.date - step1.date AS float),0) AS timespentuntilBT,
            isnull(CAST((stepBT.date - step1.date) - BI_SYNC.dbo.NumberofWeekendDays(step1.date,stepBT.date)-
            case when g.countryID = 28 then BI_SYNC.dbo.NumberofExceptionDays(step1.date, stepBT.date, g.countryID) else 0 end  AS float),0)
            AS timespentuntilBTWithoutWeekend,
            isnull( (CASE when stepBT.date > step1.date then CAST(stepBTAccept.date - stepBT.date AS float) else
            CAST(stepBTAccept.date - step1.date AS float) end),0)AS timespentBT,
            isnull(CAST(step3.date - step2.date AS float),0) AS timespent3,
            isnull(CAST((step3.date - step2.date) -  BI_SYNC.dbo.NumberofWeekendDays(step2.date,step3.date)AS float),0) AS timespent3WithoutWeekend,
            isnull(CAST(step4.date - step3.date AS float),0) AS timespent4,
            isnull(CAST(step4CaptureA.date - step4CaptureError.date as Float),0) as timespentCapError,
            isnull(CAST((step4.date - step3.date) -  BI_SYNC.dbo.NumberofWeekendDays(step3.date,step4.date)AS float),0) AS timespent4WithoutWeekend,
            isnull( CAST(stepDelay.date - step3.date AS float),0) AS timespentuntilDelay,
            isnull(CAST((stepDelay.date - step3.date) - BI_SYNC.dbo.NumberofWeekendDays(step3.date,stepDelay.date)-
            BI_SYNC.dbo.NumberofExceptionDays(step3.date,stepDelay.date, paises.paisID) AS float),0) AS timespentuntilDelayWithoutWeekend,
            isnull(CAST(step4.date - stepDelay.date AS float),0) AS timespentDelay,
            isnull(CAST(stepDHL.date - step4.date AS float),0) AS timespentuntilDHL,
            isnull(CAST(step5GMT.date - stepDHL.date AS float),0) AS timespentDHL,
            isnull(CAST((stepDHL.date - step4.date) - BI_SYNC.dbo.NumberofWeekendDays(step4.date,stepDHL.date)-
            BI_SYNC.dbo.NumberofExceptionDays(step4.date,stepDHL.date, paises.paisID) AS float),0) AS timespentuntilDHLWithoutWeekend,
            isnull( case when (datediff(MINUTE,step4.date,step5GMT.date)/60.0)/24.0  BETWEEN 0.0 AND  20.0 then
            CAST(step5GMT.date - step4.date AS float) else NULL end ,0)AS timespent5,
            isnull(CAST(step6GMT.date - step5GMT.date AS float),0) AS timespent6,
            isnull(CAST((step5GMT.date - step4.date) -  BI_SYNC.dbo.NumberofWeekendDays(step4.date,step5GMT.date)-
            BI_SYNC.dbo.NumberofExceptionDays(step4.date,step5GMT.date, paises.paisID)AS float),0) AS timespent5WithoutWeekend,
            case when (datediff(MINUTE,step4.date,step5GMT.date)/60.0)/24.0  BETWEEN 0.0 AND  20.0 then
            CAST(step5GMT.date - g.DataCriado AS float) else NULL end AS timespent,
            CAST(step6GMT.date - g.DataCriado AS float) AS timespentTotal,
            isnull( CAST((step5GMT.date - g.DataCriado) - BI_SYNC.dbo.NumberofWeekendDays(g.DataCriado,step5GMT.date) AS float),0)
            AS timespentwithoutWeekend,
            case when ordsto.AddressID = 0 then info.DefShipAddress else fadd.IdAddress end as ID
```

```
FROM            BI_SYNC.dbo.GLBOrders AS g (nolock)
  left join FarOrderStock as ordsto(nolock) on g.OrderID = ordsto.OrderID and g.SiteID = ordsto.SiteID
  left join FarSiteAddresses fadd(nolock) on fadd.IdAddress = ordsto.AddressId
  left join FarSitesInfo info(nolock) on info.LocalID = ordsto.siteID
  inner join bolocais bo(nolock) on g.siteid=bo.localid
  inner join bopaises paises(nolock) on bo.paisid=paises.paisid
  left join GLBOrderLines lines(nolock) on g.SiteID = lines.siteID and g.orderID = lines.OrderID
  left join (select adinfo.GLBOrderLineID, adinfo.UPS as Courier
            from FarOrdersAditionalInfo adinfo
              where adinfo.ups in (1,10,2)
              ) res1 on res1.GLBOrderLineID = lines.GLBOrderLineID

LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.FarOrderLog (nolock)
            WHERE        (text IN ('Status Change: Payment OK', 'Status Change: Order Cancelled by farfetch.com( manual payment failed)',
                                   'Status Change: Order Cancelled by Farfetch.com( no stock)',
                                   'Payment Change: Order Cancelled - PagSeguro Manual', 'Status Change: Order Cancelled by PagSeguro',
                                   'Status Change: Order Cancelled - PagSeguro Automatic'))
            GROUP BY SiteID, OrderID) AS step2 on g.SiteID = step2.SiteID AND g.OrderID = step2.OrderID LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.FarOrderLog (nolock)
            WHERE        (text IN ('Hold Step 1: Suggest an alternative'))
            GROUP BY SiteID, OrderID) AS stepAlternative on g.SiteID = stepAlternative.SiteID AND g.OrderID = stepAlternative.OrderID LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.FarOrderLog (nolock)
            WHERE        (text IN ('Change PoB: UI'))
            GROUP BY SiteID, OrderID) AS stepPoB on g.SiteID = stepPoB.SiteID AND g.OrderID = stepPoB.OrderID LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.FarOrderLog (nolock)
            WHERE        (text IN ('Change PoB: UI Accept'))
            GROUP BY SiteID, OrderID) AS stepPoBAccept on g.SiteID = stepPoBAccept.SiteID AND g.OrderID = stepPoBAccept.OrderID LEFT OUTER JOIN
                        (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.FarOrderLog (nolock)
            WHERE        (text IN ('Change BT: UI'))
            GROUP BY SiteID, OrderID) AS stepBT on g.SiteID = stepBT.SiteID AND g.OrderID = stepBT.OrderID LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.FarOrderLog (nolock)
            WHERE        (text IN ('Change BT: UI Accept'))
            GROUP BY SiteID, OrderID) AS stepBTAccept on g.SiteID = stepBTAccept.SiteID AND g.OrderID = stepBTAccept.OrderID LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.FarOrderLog (nolock)
            WHERE        (text IN ('status Change: Package OK'))
            GROUP BY SiteID, OrderID) AS step3 on g.SiteID = step3.SiteID AND g.OrderID = step3.OrderID LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.FarOrderLog (nolock)
            WHERE        (text IN ('Status Change: Ready to Send'))
            GROUP BY SiteID, OrderID) AS step4 on g.SiteID = step4.SiteID AND g.OrderID = step4.OrderID LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.z_BI_FarOrderLog (nolock)
            WHERE        (text IN ('Capture Status: Accepted with capture error'))
            GROUP BY SiteID, OrderID) AS step4CaptureA on g.SiteID = step4CaptureA.SiteID AND g.OrderID = step4CaptureA.OrderID LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.z_BI_FarOrderLog (nolock)
            WHERE        (text IN ('Capture Status: Capture error'))
            GROUP BY SiteID, OrderID) AS step4CaptureError on g.SiteID = step4CaptureError.SiteID AND g.OrderID = step4CaptureError.OrderID LEFT OUTER JOIN
            (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.z_BI_FarOrderLog (nolock)
            WHERE        (text IN ('Capture Status: Not accepted with capture error'))
            GROUP BY SiteID, OrderID) AS step4CaptureR on g.SiteID = step4CaptureR.SiteID AND g.OrderID = step4CaptureR.OrderID LEFT OUTER JOIN
        (SELECT        SiteID, OrderID, MAX(date) AS date
            FROM            BI_SYNC.dbo.FarOrderLog (nolock)
            WHERE        (text IN ('Hold Step 4: Brazil'))
            GROUP BY SiteID, OrderID) AS stepDelay on g.SiteID = stepDelay.SiteID AND g.OrderID = stepDelay.OrderID LEFT OUTER JOIN
```

```
        (SELECT       SiteID, OrderID, MAX(date) AS date
        FROM           BI_SYNC.dbo.FarOrderLog (nolock)
        WHERE       (text IN ('Hold Step 5: DHL Scan issue'))
        GROUP BY SiteID, OrderID) AS stepDHL on g.SiteID = stepDHL.SiteID AND g.OrderID = stepDHL.OrderID LEFT OUTER JOIN
        (SELECT       SiteID, OrderID, BI_SYNC.dbo.ChangeStep5ToMondayAndToGMT(MAX(date),geo.CountryTZOffSet) AS date
        FROM           BI_SYNC.dbo.FarOrderLog (nolock) g
                                inner join [SRVDW01\OLAP].BI_DW.dbo.DimStore store(nolock) on store.LocalID = g.SiteID
                                inner join [SRVDW01\OLAP].BI_DW.dbo.DimGeography geo(nolock) on geo.SK_Geography = store.SK_BillAddress
        WHERE       (text IN ('Status Change: Sent'))
        GROUP BY SiteID, OrderID,geo.CountryTZOffSet ) AS step5GMT on g.SiteID = step5GMT.SiteID AND g.OrderID = step5GMT.OrderID LEFT OUTER JOIN
        (SELECT       g.SiteID, g.OrderID, dateadd(hh, (-1) * geo.CountryTZOffSet, MAX(Date)) AS date
        FROM           BI_SYNC.dbo.FarOrderLog (nolock) g
                                --inner join GLBOrders ord(nolock) on g.siteID = ord.siteID and g.orderID = ord.orderID
                                inner join [SRVDW01\OLAP].BI_DW.dbo.FactOrdersLines lines(nolock) on lines.siteID = g.siteID and lines.orderSiteID = g.orderID
                                inner join [SRVDW01\OLAP].BI_DW.dbo.DimGeography geo(nolock) on geo.SK_Geography = lines.SK_GeographyShip
        WHERE       (text IN ('Status Change: Received'))
        GROUP BY g.SiteID, g.OrderID,geo.CountryTZOffSet ) AS step6GMT on g.SiteID = step6GMT.SiteID AND g.OrderID = step6GMT.OrderID LEFT OUTER JOIN
        (SELECT       SiteID, OrderID, MAX(date) AS date
        FROM           BI_SYNC.dbo.FarOrderLog (nolock)
        WHERE       (text IN ('Status change:Stock Fault', 'Status Change: Auto Stock Check', 'Status change: No Stock',
                                'Status change:Stock OK - all items cancelled by costumer', 'Status change:Stock Fault and items cancelled by costumer',
                                'Status change:Stock OK - items cancelled by costumer', 'Status change:Stock OK', 'Status Change: Order Cancelled by Farfetch.com( no stock)'))
        GROUP BY SiteID, OrderID) AS step1 on g.SiteID = step1.SiteID AND g.OrderID = step1.OrderID LEFT OUTER JOIN
        (SELECT       SiteID, OrderID, MAX(date) AS date
        FROM           BI_SYNC.dbo.FarOrderLog (nolock)
        WHERE       (text IN ('Status Change: Cancel Orders','Status Change: Order Cancelled by Costumer',
                        'Status Change: Order Cancelled by Farfetch.com( no stock) ','Status Change: Order Cancelled by Farfetch.com( no stock)',
                        'Status Change: Other Reason (FF fault)','Status Change: Other Reason (Partner fault)','Status change:items OK, Stock Fault and items cancelled by costumer',
                        'Status change:Stock OK - all items cancelled by costumer','Status change:Stock OK - items cancelled by costumer'))
        GROUP BY SiteID, OrderID) AS otherStep on g.SiteID = otherStep.SiteID AND g.OrderID = otherStep.OrderID

WHERE  datediff(dd,step5gmt.date,getdate()) <= 28
and Courier is not null


 ) res
  inner join bolocais bo(nolock) on res.siteid=bo.localid
  inner join bopaises paises(nolock) on bo.paisid=paises.paisid
  inner join bopaises paises2(nolock) on res.sCountry = paises2.nome
  inner join glborders g(nolock) on g.siteID = res.siteID and g.orderID = res.orderID

  left join FarSitesInfo f(nolock) on f.LocalID = res.siteID
  inner join FarAccountManagers ams(nolock) on f.AM1Resp = ams.idAM
  left join FarSiteAddresses fadd(nolock) on res.ID = fadd.IdAddress

 where  BO.paisid <> 28
   and res.timespent is not null


 ) res2
```

Return Processing

```
    select  g.SiteID,
            g.OrderID,
            paises.Nome as BoutiqueCountry,
    case when (cast(bo.Region as Numeric)) = 0 then 'EU' else (case when (cast(bo.Region as Numeric)) = 1 then 'US' else 'BR' end) end AS BoutiqueRegion,
            bo.SiteName AS Boutique,
            g.sCountry as CustomerCountry,
            g.DataCriado AS OrderCreation,
            case when freturns.StatusR = 400 then 'Store' else case when freturns.StatusR = 401 then 'Customer' else
            case when freturns.StatusR = 201 then 'Refused' else '0' end end end as ResponsibleShipping,
            case when freturns.ReturnM = 'DHL' then 'DHL' else case when freturns.ReturnM is null and freturns.UPSTraking is not null
            then 'UPS' else 'No Courier' end end AS Courier,
            Year(ReturnCreation.date) as Year,
            Month(ReturnCreation.date) as Month,
            'Semana' + cast(datepart(week,ReturnCreation.date) as varchar) as Semana,
            step6GMT.date AS ReceivedDate,
            ReturnCreation.date AS ReturnCreation,
            PackagePickUpGMT.date AS PackagePickUp,
            ReturnReceived.date AS ReturnReceived,
            AcceptedbyStore.date AS AcceptedByStore,
            RefusedbyStore.date as RefusedByStore,
            isnull(CAST(ReturnCreation.date - step6GMT.date AS float),0) AS timespentCreatingReturn,
            isnull(CAST(PackagePickUpGMT.date - ReturnCreation.date AS float),0) AS timespentPickingUp,
            isnull(CAST(ReturnReceived.date - PackagePickUpGMT.date AS float),0) AS timespentInTransit,
            isnull(CAST(AcceptedbyStore.date - ReturnReceived.date AS float),0) AS timespentAcepting,
            isnull(CAST((AcceptedbyStore.date - ReturnReceived.date) - BI_SYNC.dbo.NumberofWeekendDays(ReturnReceived.date,AcceptedbyStore.date)-
            BI_SYNC.dbo.NumberofExceptionDays(ReturnReceived.date,AcceptedbyStore.date, bo.paisID) AS float),0) as timespentAceptingNet,
            isnull(CAST(RefusedbyStore.date - ReturnReceived.date AS float),0) AS timespentRefusing
    FROM           BI_SYNC.dbo.GLBOrders AS g  (nolock)
    LEFT OUTER JOIN
            (SELECT       SiteID, OrderID, Date AS Date
                FROM           BI_SYNC.dbo.FarROrders rord  (nolock)
                GROUP BY SiteID, OrderID, Date) AS ReturnCreation ON g.SiteID = ReturnCreation.SiteID AND g.OrderID = ReturnCreation.OrderID LEFT OUTER JOIN
            (SELECT       g.SiteID, g.OrderID, dateadd(hh, (-1) * geo.CountryTZOffSet, MAX(Date)) AS date
                FROM           BI_SYNC.dbo.FarOrderLog g  (nolock)
                --inner join GLBOrders ord on g.siteID = ord.siteID and g.orderID = ord.orderID
                 inner join [SRVDW01\OLAP].BI_DW.dbo.FactOrdersLines lines  (nolock) on lines.siteID = g.siteID and lines.orderSiteID = g.orderID
                  inner join [SRVDW01\OLAP].BI_DW.dbo.DimGeography geo  (nolock) on geo.SK_Geography = lines.SK_GeographyShip
                 WHERE       (text IN ('Status Change: Received'))
                 GROUP BY g.SiteID, g.OrderID,geo.CountryTZOffSet ) AS step6GMT ON g.SiteID = step6GMT.SiteID AND g.OrderID = step6GMT.OrderID LEFT OUTER JOIN
            (SELECT       g.SiteID, g.OrderID, dateadd(hh, (-1) * geo.CountryTZOffSet, MAX(Date)) AS date
                FROM           BI_SYNC.dbo.FarOrderLog g (nolock)
                 inner join [SRVDW01\OLAP].BI_DW.dbo.FactOrdersLines lines  (nolock) on lines.siteID = g.siteID and lines.orderSiteID = g.orderID
                 inner join [SRVDW01\OLAP].BI_DW.dbo.DimGeography geo  (nolock) on geo.SK_Geography = lines.SK_GeographyShip
                WHERE       (text IN ('Return: Package picked up'))
                GROUP BY g.SiteID, g.OrderID,geo.CountryTZOffSet) AS PackagePickUpGMT ON g.SiteID = PackagePickUpGMT.SiteID AND g.OrderID = PackagePickUpGMT.OrderID LEFT OUTER JOIN
            (SELECT       SiteID, OrderID, DATEADD(hour, (-1) * geo.CountryTZOffSet, DeliveryDate) AS Date
                FROM           BI_SYNC.dbo.FarROrders rord (nolock)
                               inner join [SRVDW01\OLAP].BI_DW.dbo.DimStore store  (nolock) on store.LocalID = rord.SiteID
                               inner join [SRVDW01\OLAP].BI_DW.dbo.DimGeography geo  (nolock) on geo.SK_Geography = store.SK_BillAddress
                GROUP BY SiteID, OrderID, DeliveryDate, geo.CountryTZOffSet) AS ReturnReceived ON g.SiteID = ReturnReceived.SiteID AND g.OrderID = ReturnReceived.OrderID LEFT OUTER JOIN
            (SELECT       SiteID, OrderID, MAX(date) AS date
                FROM           BI_SYNC.dbo.FarOrderLog (nolock)
                WHERE       (text IN ('Status change: Received Return and Accepted'))
                GROUP BY SiteID, OrderID) AS AcceptedbyStore ON g.SiteID = AcceptedbyStore.SiteID AND g.OrderID = AcceptedbyStore.OrderID LEFT OUTER JOIN
            (SELECT       SiteID, OrderID, MAX(date) AS date
                FROM           BI_SYNC.dbo.FarOrderLog (nolock)
                WHERE       (text IN ('Status change: Received Return and Refuse'))
                GROUP BY SiteID, OrderID) AS RefusedbyStore ON g.SiteID = RefusedbyStore.SiteID AND g.OrderID = RefusedbyStore.OrderID

      inner join bolocais bo  (nolock) on g.siteid=bo.localid
      inner join bopaises paises  (nolock) on bo.paisid=paises.paisid
      inner join FarROrders freturns  (nolock) on g.siteID = freturns.siteID and g.orderID = freturns.OrderID
    WHERE ReturnReceived.date is not null and datediff(dd,ReturnReceived.date,getdate()) <=28 and  BO.paisid <> 28
```

No Stock

```
select cast (CheckStockDate as date) as Date, Country, Boutique, BoutiqueRegion,

       case when flag = 'Net' then count(flag) else 0 end as Net,
       case when flag = 'SA+' then count(flag) else 0 end as Gross,
       case when flag = 'Qtd' then count(flag) else 0 end as Qtd,
       case when flag = 'Net' then  productID else 0 end as NetItem,
       case when flag = 'SA+' then  productID else 0 end as GrossItem
from
(
select  SiteID,
        OrderSiteId,
        geo.Country,
        geo.RegionTargetFF as BoutiqueRegion,
        CheckStockDate,
        DimStore.StoreName as Boutique,
        Year(CheckStockDate) as Year,
        datepart(wk,CheckStockDate) as Week,
        s.productID,
        'Net' as flag
from factorderslines s
inner join DimOrderStatus st on st.SK_OrderStatus=s.SK_OrderStatus
inner join DimStore on DimStore.SK_Store = s.SK_Store
inner join DimGeography geo on geo.SK_Geography = DimStore.SK_ShipAddress
where datediff(dd,CheckstockDate,getdate())<=28
and TimeSpent_HoldStep1 is null
and st.LineStatusId=1
--sugg alt sem sucesso
union
select  SiteID,
        OrderSiteId,
        geo.Country,
        geo.RegionTargetFF as BoutiqueRegion,
        CheckStockDate,
        DimStore.StoreName as Boutique,
        Year(CheckStockDate) as Year,
        datepart(wk,CheckStockDate) as Week,
        s.productID,
        'SA+' as flag
from factorderslines s
inner join DimOrderStatus st on st.SK_OrderStatus=s.SK_OrderStatus
inner join DimStore on DimStore.SK_Store = s.SK_Store
inner join DimGeography geo on geo.SK_Geography = DimStore.SK_ShipAddress
where YEAR(CheckstockDate) in (2014)
and TimeSpent_HoldStep1 >0
and st.LineStatusId in (2,3,4)
and datediff(dd,CheckstockDate,getdate())<=28
union all
select SiteID,
       OrderSiteID,
       geo.Country,
       geo.RegionTargetFF as BoutiqueRegion,
       CheckStockDate,
       DimStore.StoreName as Boutique,
       Year(CheckStockDate) as Year,
        datepart(wk,CheckStockDate) as Week,
        s.productID,
        'Qtd' as flag
from factorderslines s
--inner join DimOrderStatus st on st.SK_OrderStatus=s.SK_OrderStatus
inner join DimStore on DimStore.SK_Store = s.SK_Store
inner join DimGeography geo on geo.SK_Geography = DimStore.SK_ShipAddress
where  datediff(dd,CheckstockDate,getdate())<=28
) res
group by res.flag, res.Country, res.CheckStockDate, res.Boutique, res.BoutiqueRegion, res.ProductId
```

Orders on Pipeline

```
select  pais
        ,nome
        ,fadd.Designation
        ,LevelToDoDesc
        ,BoutiqueOrder
        ,CASE WHEN Delay<1 THEN 1
                WHEN Delay <2 THEN 2
                WHEN Delay <4 THEN 3
                ELSE 4 END delayBandOrder,
        CASE WHEN Delay<1 THEN 'x<1'
                WHEN Delay <2 THEN '1<=x<2'
                WHEN Delay <4 THEN '2<=x<4'
                ELSE 'x>=4' END delayBand,
        CASE WHEN DelayNoWK<1 THEN 1
                WHEN DelayNoWK <2 THEN 2
                WHEN DelayNoWK <4 THEN 3
                ELSE 4 END delayBandOrderNoWeekend,
        CASE WHEN DelayNoWK<1 THEN 'x<1'
                WHEN DelayNoWK <2 THEN '1<=x<2'
                WHEN DelayNoWK <4 THEN '2<=x<4'
                WHEN DelayNoWK <8 THEN '4<=x<8'
                ELSE 'x>=8' END delayBandNoWeekend,

        CASE WHEN levelTodo=1 THEN CASE WHEN Alternative = 'AA'
                                        THEN 'NORMAL'
                                        ELSE Alternative
                                END
            WHEN levelTodo=2 THEN CASE WHEN BT = 'BT'
                                        THEN 'BT' ELSE CASE WHEN PAGSEGURO = 'PAGSEGURO' then 'PAGSEGURO'
                                        ELSE CASE WHEN PoB = 'AA'
                                                    THEN 'NORMAL'
                                                    ELSE  PoB END
                                END END
            WHEN levelTodo=3 THEN CASE WHEN Alternative = 'ALT' OR PoB = 'POB' OR BT= 'BT' OR PAGSEGURO = 'PAGSEGURO'
                                        THEN 'JUST'
                                        ELSE 'NORMAL'
                                END
            WHEN levelTodo=4 THEN CASE WHEN DLAY = 'DELAY'
                                        THEN DLAY
                                        ELSE CASE WHEN Alternative = 'ALT' OR PoB = 'POB' OR BT= 'BT' OR PAGSEGURO = 'PAGSEGURO'
                                                    THEN 'JUST'
                                                    ELSE 'NORMAL'
                                        END
                                END
            WHEN levelTodo=5 THEN CASE WHEN DHL = 'DHL'
                                        THEN DHL ELSE CASE WHEN GERLACH = 'GERLACH' then 'GERLACH'
                                        ELSE CASE WHEN Alternative = 'ALT' OR PoB = 'POB' OR BT= 'BT' OR PAGSEGURO = 'PAGSEGURO'
                                                    THEN 'JUST'
                                                    ELSE 'NORMAL'
                                        END
                                END end
            END As OrderStatus
                FROM (

            SELECT glbor.siteID,
case when (cast(bo.Region as Numeric)) = 0 then 'EU' else (case when (cast(bo.Region as Numeric)) = 1 then 'US' else 'BR' end) end AS BoutiqueRegion,
glbor.OrderID, bopaises.nome as pais,bo.nome,
                        case when ordsto.AddressID = 0 then info.DefShipAddress else fadd.IdAddress end as ID,
                        bo.LocalID,
                        case when isnull(ordsto.levelToDo,1) =1 then 'Check Stock'
                            when isnull(ordsto.levelToDo,1) =2 then 'Approve Payment'
                            when isnull(ordsto.levelToDo,1)=3 then 'Decide Packaging'
                            when isnull(ordsto.levelToDo,1) =4 then 'Create Shipping Label'
                            when isnull(ordsto.levelToDo,1)=5 then 'Send Parcel'
                        end as LevelToDoDesc,
                        BO.SIGLA + (CAST(GLBOR.ORDERID AS VARCHAR)) AS BoutiqueOrder
```

```
                        ,  isnull(ordsto.levelToDo,1) as levelTodo,
                        glbor.scountry,
                        glbor.DataCriado,
                        datediff(hour, DataCriado, GETDATE())/24.0  as Delay,
                        datediff(hour, DataCriado, getdate())/24.0 - BI_SYNC.dbo.NumberofWeekendDays(DataCriado,getdate()) as DelayNoWK,
                        glbor.UserMoeda,
                max((case when flog.text= 'Hold Step 1: Suggest an alternative' then 'SA' else 'AA' end )) as Alternative,
                max((case when flog.text= 'Change PoB: Waiting for PoB' then 'PoB' else case when
                flog.text= 'Change PoB: Waiting for CS Contact' then 'PoB' else 'AA' end  end )) as PoB,
                max((case when flog.text= 'Change PoB: Waiting for Bank Transfer' then 'BT' else 'AA' end )) as BT,
                max((case when glbor.paytype = 'PagSeguro' then 'PAGSEGURO' else 'AA' end)) as PAGSEGURO,
                max((case when glbor.TotalComShip > 1000 and bopaises.PaisID = 77 then 'GERLACH' else 'AA' end)) as GERLACH,
                max((case when flog.text= 'Hold Step 4: Brazil' then 'DELAY' else 'AA' end )) as DLAY,
                max((case when flog.text= 'Hold Step 5: DHL Scan issue' then 'DHL' else 'AA' end )) as DHL,

        FROM GLBOrders glbor left join FarOrderStock as ordsto on glbor.OrderID = ordsto.OrderID and glbor.SiteID = ordsto.SiteID
                            inner join bolocais bo on glbor.siteid=bo.localid
                            left join FarOrderLog flog on glbor.SiteID=flog.SiteID and glbor.orderID = flog.OrderID
                             INNER JOIN BOLOCAIS BOL ON GLBOR.SITEID = BOl.LOCALID
                             inner join bopaises on bol.paisid=bopaises.paisid
                             left join FarSiteAddresses fadd on fadd.IdAddress = ordsto.AddressId
                            left join FarSitesInfo info on info.LocalID = ordsto.siteID
        where  BO.paisid <> 28
        and isnull(ordsto.LevelToDo,1)in (1,2,3,4,5)
        and YEAR(glbor.DataCriado)>=2013
        group by bopaises.nome, bo.Region,
                bo.nome,ordsto.AddressID,fadd.IdAddress, info.DefShipAddress,
                bo.LocalID, glbor.siteID, glbor.orderID,
                  BO.SIGLA + (CAST(GLBOR.ORDERID AS VARCHAR))
                  ,  isnull(ordsto.levelToDo,1),
                  glbor.scountry,
                  glbor.DataCriado,
                  glbor.UserMoeda
    ) s1
left join FarSiteAddresses fadd on s1.ID = fadd.IdAddress
```

Pipeline Ratio

```
select  res.BoutiqueCountry,
        res.BoutiqueRegion,
        res.Boutique,
        res.BoutiqueOrders,
        AvgLast3days, (cast(res.BoutiqueOrders as float)/ cast(AvgLast3days as float)) as PipelineRatio

from(

select bo.paisID, bo.localID,
case when (cast(bo.Region as Numeric)) = 0 then 'EU' else (case when (cast(bo.Region as Numeric)) = 1 then 'US' else 'BR' end) end AS BoutiqueRegion,
       bopaises.nome as BoutiqueCountry,
       bo.nome as Boutique,
       count(BO.SIGLA + (CAST(GLBOR.ORDERID AS VARCHAR))) AS BoutiqueOrders, cast(res1.NUmberOrders /3 as float) as AvgLast3days

        FROM GLBOrders glbor left join FarOrderStock as ordsto on glbor.OrderID = ordsto.OrderID and glbor.SiteID = ordsto.SiteID

                                        INNER JOIN BOLOCAIS BO ON GLBOR.SITEID = BO.LOCALID
                                        inner join bopaises on bo.paisid=bopaises.paisid
                                        inner join   (select g.siteID, (cast(count(orderID)as float)) as NUmberOrders
                                                        from GLBOrders g
                                                            where datediff(dd,DataCriado,getdate()) <=3
                                                            group by g.siteID
                                                             ) as res1 on res1.siteID = bo.localID

                            where  BO.paisid <> 28
                            and isnull(ordsto.LevelToDo,1)in (1,2,3,4,5)--=1
                            and YEAR(glbor.DataCriado)>=2013
                            group by bopaises.nome, bo.nome, bo.paisID, bo.localID, res1.NUmberOrders, bo.Region
) res
```

ANNEX B: Boutique Information Form

FARFETCH

Please insert your farfetch e-mail: *

Store Information

Partner

Boutique Setup

How many stores (stock points) does the partner have?

How is the partner structured? (You can select more than one option)

- ☐ All in one building (Office + Store + Warehouse)
- ☐ Office separated from Store(s)
- ☐ Centralized Store
- ☐ Decentralized Store
- ☐ Centralized Warehouse (same for Stores and FF)
- ☐ Decentralized Warehouse (exclusive for FF)
- ☐

How is the process split through the store staff?

	Office	Store	Warehouse
Create Product	☐	☐	☐
Control Stock	☐	☐	☐
Step 1 - Check Stock	☐	☐	☐
Step 2 - Decide Packaging	☐	☐	☐
Step 3 - Send Parcel	☐	☐	☐
Returns	☐	☐	☐
Geopricing	☐	☐	☐

How many people are allocated to each step?

	Name	Name	Name	Name	Name	Name
Create Product						
Control Stock						
Step 1 - Check Stock						
Step 2 - Decide Packaging						
Step 3 - Send Parcel						

Returns						
Geopricing						

Tools

The store uses Sales or FFDM for order processing?

- ◯ Only Sales
- ◯ Only FFDM
- ◯ Both

How many FFDM installed?

	Laptop	Desktop
Office		
Stores		
Warehouse		

Who has access to FFDM?

- ☐ Online Manager
- ☐ Office Staff
- ☐ Store Staff
- ☐ Warehouse Staff
- ☐ Owner
- ☐

Who has access to Sales?

- ☐ Online Manager
- ☐ Office Staff
- ☐ Store Staff
- ☐ Warehouse Staff
- ☐ Owner
- ☐

Courier

How many pick-up points?

Pick-up Hours

	Morning	Afternoon	Pick-up Point Name	Daily?	Stock Point?
1					
2					
3					

4					
5					
6					
7					
8					
9					
10					

Create Product

Tool used:

- [ ] Create Product
- [ ] Excel File
- [ ] Stock Sync
- [ ]

Who creates the products?

- [ ] Owner
- [ ] Online Manager
- [ ] Other Staff
- [ ]

When are the items created? (You can select more than one option)

- [ ] Beginning of a new season
- [ ] During new season
- [ ] Late in the season
- [ ]

How are the items created? (You can select more than one option)

- [ ] Only with slot confirmed
- [ ] Without slot
- [ ] By association
- [ ]

Who sends / receives the slot?

- [ ] Owner
- [ ] Online Manager
- [ ] Other Staff
- [ ]

Which type of service do they use to send / receive the slots?

	Express	Standard	Both
Send	○	○	○
Receive	○	○	○

Which Courier service do they use to send / receive the slots?

	DHL	UPS	TNT	Own Account
Send	○	○	○	○
Receive	○	○	○	○

Control Stock

How do they control the stock?

- ○ Labels FF
- ○ Labels FF with printer
- ○ Own Barcodes with FFDM
- ○ Stock sync
- ○ [ ]

They print all the barcodes?

- ○ Yes
- ○ No

When?

[ ]

Why?

[ ]

When do they insert the barcodes in our system?

[ ]

When do they do the mapping?

[ ]

What do they do with the items created before the stock sync?

[ ]

Do they do global stock count (inventory)?

- ◯ Yes
- ◯ No

How often per season?

[ ]

When do they upload the stock?

- ☐ After product creation
- ☐ After sending slot
- ☐ After receiving slot
- ☐ [ ]

Order Process

Please select the most accurate description:

- ☐ They have specific hours per step
- ☐ They process the order from step 1 to step 3 uninterruptedly
- ☐ Each person is responsible for a specific task / step
- ☐ [ ]

How do they pass the information inside them team?

- ☐ E-mail
- ☐ Skype
- ☐ In person
- ☐ FFDM
- ☐ [ ]

Do they process orders during weekends?

- ◯ Yes
- ◯ No
- ◯ Depends on the staff working that weekend

Do they work extra hours only for Farfetch?

- ◯ Yes
- ◯ No

Step 1 - Check Stock

How many times per day they perform this step?

Do they check the orders by date (oldest to newest?)

- ◯ Yes
- ◯ No

Who decides a Suggest Alternative?

- ☐ Online Manager
- ☐ Office Staff
- ☐ Store Staff
- ☐ Warehouse Staff
- ☐ Owner
- ☐

Step 2 - Decide Packaging

How many times per day they perform this step?

Who does it on FFDM?

- ☐ Online Manager
- ☐ Office Staff
- ☐ Store Staff
- ☐ Warehouse Staff
- ☐ Owner
- ☐

When do they decide the packaging?

- ☐ Before the order is ready to pack
- ☐ When they are actually packing
- ☐

Step 3 - Send Parcel

How do they control the orders to be send?

- ☐ Excel file
- ☐ Lists
- ☐

How do they control old orders?

- [ ] Excel file
- [ ] Lists
- [ ]

Do they use one-click-printing?

- ◯ Yes
- ◯ No

Returns

Who receives the returns?

- [ ] Online Manager
- [ ] Office Staff
- [ ] Store Staff
- [ ] Warehouse Staff
- [ ] Owner
- [ ]

When are the returns accepted?

Customer Service

Who deals with FF Customer Service?

- [ ] Online Manager
- [ ] Office Staff
- [ ] Store Staff
- [ ] Warehouse Staff
- [ ] Owner
- [ ]

Does the store have a specific e-mail for Customer Service?

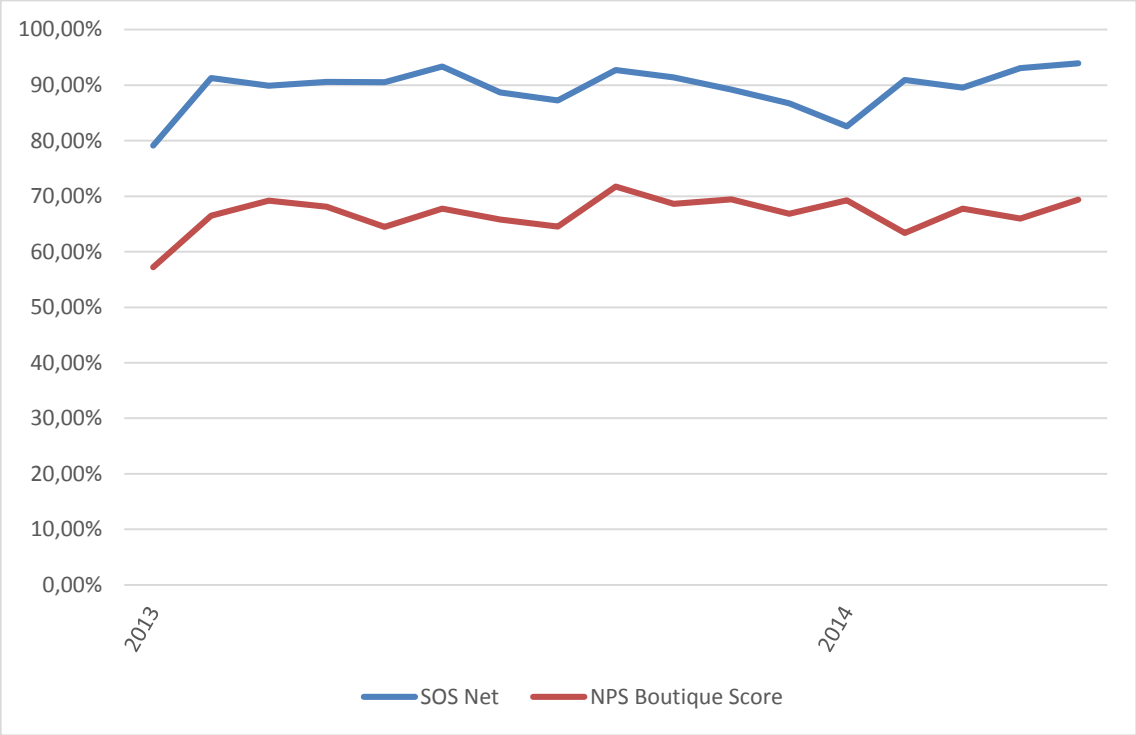
- ◯ Yes
- ◯ No

Notes

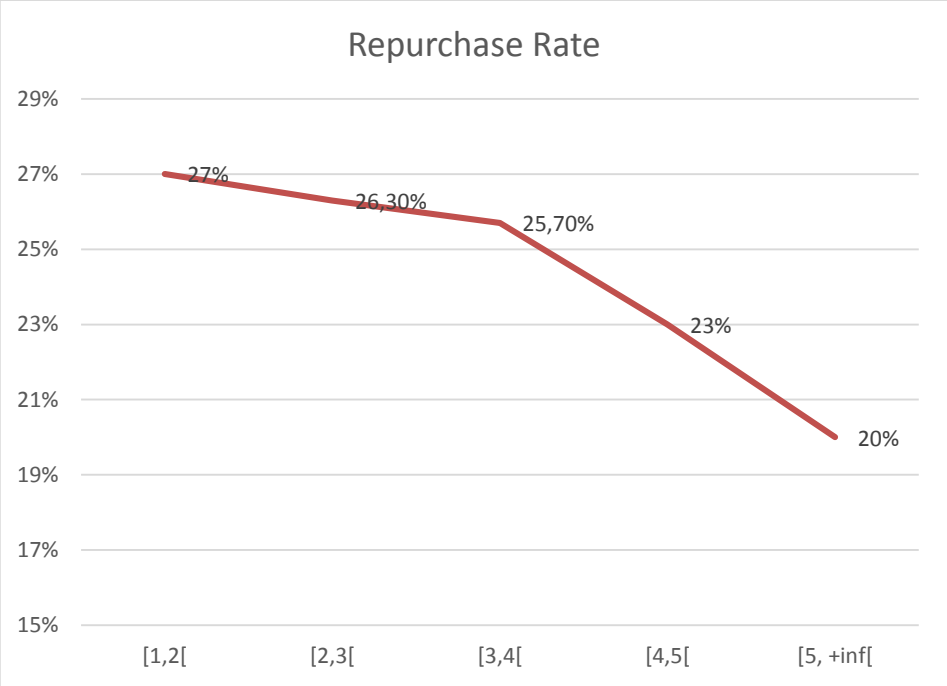
Observations:

ANNEX C: Correlations

Correlation NPS and Speed of Sending



Correlation Speed of Sending and Repurchase Rate



X: Speed of Sending in days

Y: % of Repurchase Rate